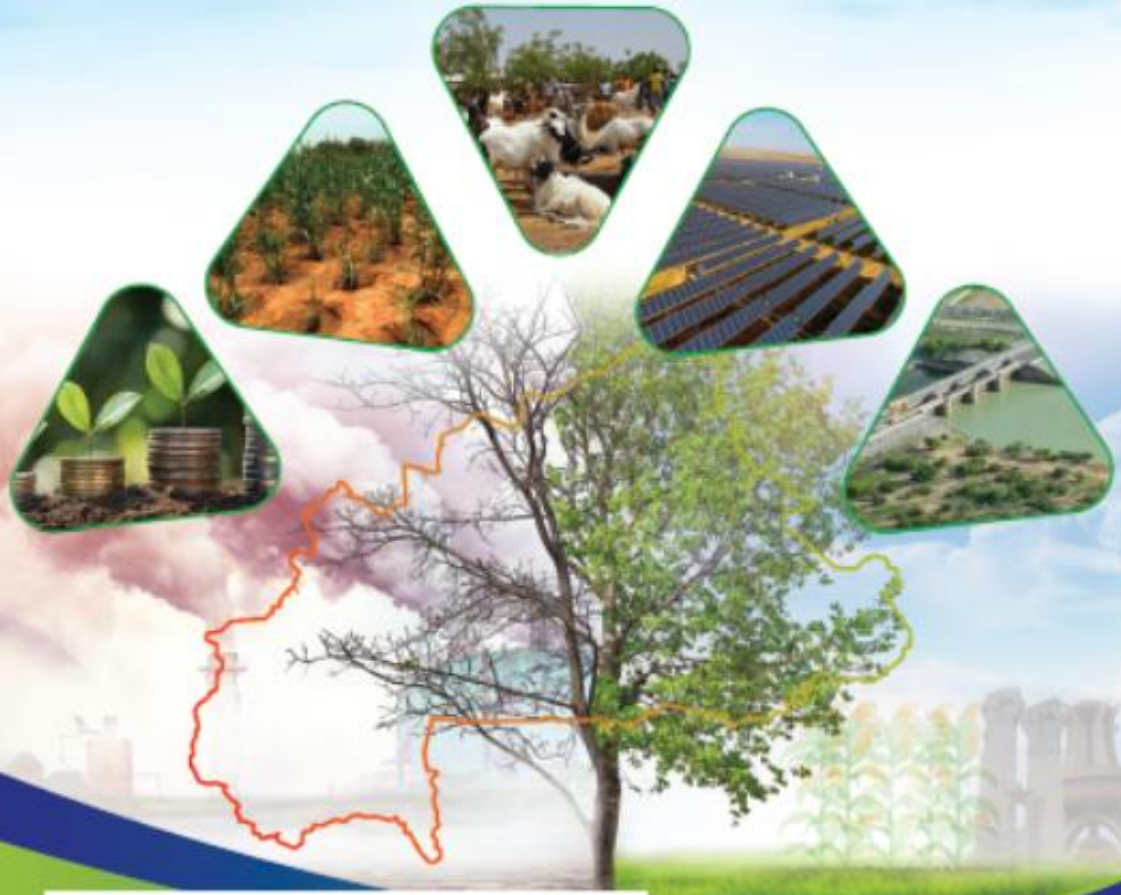
BURKINA FASO

BURKINA FASO'S FIRST BIENNIAL TRANSPARENCY REPORT (BTR1) AND FOURTH NATIONAL COMMUNICATION TO THE UNITED NATIONS FRAMEWORK CONVENTION ON CLIMATE CHANGE



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FOREWORD

As the other States-Parties to the Paris Climate Agreement, Burkina Faso has developed its first Biennial Transparency Report (BTR) for submission to the secretariat of the United Nations Framework Convention on Climate Change (UNFCCC). This very first post-Paris Agreement accountability exercise was combined with the Fourth National Communication (QCN) on climate change, in accordance with the relevant provisions, notably article 13 paragraph 4 of the Paris Agreement.

On behalf of Burkina Faso's Government, it's a great pleasure to present this national report, developed in a participatory and inclusive manner. It takes into account all elements required in the BTR combined with the QCN. The report includes a national GHG inventory, and the information needed to monitor progress in implementing nationally determined contributions (NDCs). The report also presents information on climate change impacts and adaptation, as well as information on the financial support, technology development and transfer and capacity building required and received.

Through a single inventory covering the time series from 1990 (the first year of initial national communication inventory) to 2022, the calculations have highlighted the progress made by the country since its accession to the UNFCCC in 1993. Data on monitoring progress in implementing and achieving NDCs indicate that Burkina Faso is on track to meet the objectives of the Paris Agreement. Indeed, by 2030, the country's GHG emissions should be significantly reduced by 29.42% compared with the Business As Usual scenario.

This national report shows that the country, while highly vulnerable to climatic hazards, is not left behind in the global climate change dynamics. However, implementing adaptation or mitigation actions will require a sustained mobilization of financial resources and continued capacity-building initiatives.

Burkina Faso Government take this opportunity to reiterate its gratitude to technical and financial partners supporting the country's efforts to combat global warming, in particular the Global Environment Facility and the United Nations Environment Programme. They renew their thanks and encouragement to all those involved in the process of developed the BTR combined with the QCN. With their sustained and unwavering support, Burkina Faso will be on an inclusive and sustainable socio-economic development path is low-carbon and resilient to climate hazards.

Le Ministre de l'Environnement,
de l'Eau et de l'Assainissement

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ACRONYMS AND ABBREVIATIONS

AFOLU : Agriculture, forestry and other land use
DNA : Designated National Authorities.
LUDB : Land Use Database
UNFCCC : United Nations Framework Convention on Climate Change
INDC : Intended Nationally Determined Contribution
NDC : Nationally Determined Contribution (NDC)
MTC : Monitoring Technical Committee
ISIC : International Standard Industrial Classification
NCCC : National Committee on Climate Change
SP/CNDD : Permanent Secretariat of the National Council for Sustainable Development
CNS : National Statistics Council;
QC/QA : Quality control and Quality assurance
CTCN : Climate Technology Center and Networks
AD : Activity data
SNC : Second National Communication
DGE : Directorate-General for Energy
DGPER : Directorate-General for the Promotion of the Rural Economy
DGPSE : Directorate General of Livestock Forecasts and Statistics
DSF : Tax and Statistical Declarations
TNA : Technology Needs Assessment
IHLCS : National Survey on Households Living Conditions
NLC : National Livestock Population Survey
PS : Priority Survey
EPA : Permanent Agricultural Survey
GCF : Green Climate Fund
GACMO : Greenhouse Gas Abatement Cost Model
GHG : Greenhouse gas
IPCC : Intergovernmental Panel on Climate Change
IgB : Geographical Institute of Burkina
GHGI : Greenhouse gas emissions inventory
HCPI : Harmonized Consumer Price Index
INSD : National Institute of Statistics and Demography
IHPI : Harmonized Industrial Production Index
MEEVCC : Ministry of Environment, Green Economy and Climate Change (Ministère de l'Environnement, de l'Economie Verte et du Changement Climatique)
MPGs : Enhanced Transparency Framework modalities, procedures and guidelines
MRV : Measurement, Reporting and Verification
NAMA : Nationally appropriate mitigation measures
SDG : Sustainable Development Goals
GDP : Gross Domestic Product
NAP : National Climate Change adaptation Plan
UNEP : United Nations Environment Programme

BTR1 : First Updated Biennial Report
GWP : Global Warming Potentials
QUIBB : Unified Questionnaire on Basic Well-Being Indicators
BTR1 : First Updated Biennial Report
GCA : General Census of Agriculture
GPHC : General Population and Housing Census
RIC : Industrial and Commercial Census
SP/CNDD : Permanent Secretariat of the National Council for Sustainable Development
UNFCCC : United Nations Framework Convention on Climate Change
LULUCF : Land Use, Land Use Change and Forestry
NC3 : Third National Communication on Climate Change

CHEMICAL FORMULAS

CH_4	: Methane
CO	: Carbon monoxide
CO_2	: Carbon Dioxide
NMVOC	**:** Non-methane volatile organic compound
HFC	: Hydrofluorocarbons
N_2O	: Nitrous oxide
NF_3	: Nitrogen trifluoride
NH_3	: Ammonia
NOx	: Nitrogen Oxides
PFC	: Perfluorocarbons (PFCs)
SF_5CF_3	**:** Sulphur trifluoromethyl pentafluoride
SF_6	: Sulphur Hexafluoride
SO_2	**:** Sulphur dioxide

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EXECUTIVE SUMMARY

National circumstances and institutional arrangements related to the greenhouse gas inventory

A country vulnerable to climate change adverse effects, Burkina Faso has ratified several international climate agreements, including the United Nations Framework Convention on Climate Change (UNFCCC) in 1993, the Kyoto Protocol in 2005 and the Paris Agreement in 2016. In accordance with these obligations following the ratification of these instruments, the country has submitted three National Communications on climate change, and an Updated Biennial Report (UBR).

In relation to greenhouse gas (GHG) inventories, the country has already carried out four, the last of which was in 2024. The 4th inventory results show a 100.15% increase in GHG emissions between 1990 and 2022, from 36,122.07 Gg Eq-CO_2 to 72,300.95 Gg Eq-CO_2. The increase in national emissions is largely caused by the increase in emissions from Land Use, Land Use Change and Forestry (LULUCF) sector, whose contribution is 47.81%, that of agriculture is 29.40%, Energy accounts for 17.05%, that of Industrial Processes and Product Use (IPPU) is 3.79% and that of Waste 1.93%.

At the institutional level, the Ministry of Environment, Water and Sanitation through the Permanent Secretariat of the National Council for Sustainable Development (SP/CNDD) coordinates inventories with a management unit, a Steering Monitoring Committee (CDS) and a pool of experts. The data, collected through a Measurement, Reporting and Verification (MRV) system based on the recommendations of the Intergovernmental Panel on Climate Change (IPCC), are centralized on digital platforms to ensure their quality, traceability and accessibility.

Rigorous quality control and assurance, including independent verifications, have been carried out to ensure data accuracy and completeness. The reports approval was done in a participatory manner, with validation by national stakeholders and international agencies.

Burkina Faso is exposed to climatic hazards. Indeed, the country's population is predominantly young and more than 80% of this population depends on the exploitation of natural resources, agriculture, livestock, forestry and fishery resources. The economy dynamism remains dependent on climatic hazards and is, today, strongly affected by socio-political and security instability. In response to this situation, the country has put in place institutional and legal arrangements, developed adaptation approaches and strategies.

In order to provide effective solutions to climate problems and in compliance with its commitments to UNFCCC, Burkina Faso has mobilized financial resources for the implementation of climate actions. Indeed, the financial requirements for the NDC implementation of the is USD 2,527,863,277, the financial requirements for technology: USD 373,807,272 and Capacity Building Supports: USD 8,365,466.001.

Summary of trends in national emissions and removals

Since 3rd inventory, the approach to developing IGES has evolved towards a more inclusive and sustainable biennial model, using the national MRV (measurement, reporting and verification) system for data collection and teams of national experts for their processing and reporting.

As part of this GHG inventory, data collection approach followed a three-phase process. There was stakeholder awareness; surveys of companies and public and private administrations; interviews with some data providers and the use of MRV-BF framework and platform. The activity data used comes from various sources. Priority was given to national sources, then to data from international institutions and in case of unavailability, extrapolation techniques were used to fill the gaps.

GHG emissions from the Land Use, Land Use Change and Forestry (LULUCF) sector increased from 39,008 Gg CO_2 eq in 1990 to 55,282 Gg CO_2 eq in 2022, an increase of 42%. If this trend continues, in 2050 this sector will emit 75,661 Gg Eq-CO_2.

For the agriculture sector, emissions increased from 7,025 Gg in 1990 to 18,231 Gg in 2022, an annual increase of 2.8%. Agriculture will emit 43,008 Gg Eq-CO_2 in 2050 if this growth rate remains steady.

GHG emissions from the Land Use, Land Use Change and Forestry (LULUCF) sector increased from 1,159 Gg CO_2 eq in 1990 to 7,328 Gg CO_2 eq in 2022, an increase of 532%. If this trend continues, in 2050 this sector will emit 38,534 Gg Eq-CO_2.

In the waste, emissions have risen from 545 Gg Eq-CO2 in 1990 to 1,244 Gg Eq-CO2 in 2022, representing a growth rate of 128%. At this rate, this sector will emit 2,618 Gg Eq-CO_2 in 2050.

With regard to the Industrial Processes and Product Utilization (IPPU) sector, although GHG emissions are low, going from almost zero in 1990 to 167 Gg Eq-CO_2 in 2022, emissions from this sector are likely to be high in 2050 if appropriate measures are not taken.

In sum, we note that GHG emissions from all sectors have an upward trend and overall emissions almost doubled between 1990 and 2022. At this rate, this sector will emit 134,218 Gg Eq-CO_2 in 2050. The increase in national emissions is largely caused by the increase in emissions from Land Use, Land Use Change and Forestry (LULUCF) sector, whose contribution is 47.81%, that of agriculture is 29.40%, Energy accounts for 17.05% that of Industrial Processes and Product Use (IPPU) is 3.79% and that of Waste 1.93%.

An overview of emission estimates and trends for source and sink categories

According to the level approach, all sector categories combined, over the period 2015 to 2022, there are 11 categories that contribute to 95.39% of GHG emissions in Burkina Faso. Most of the key source categories are Land Use, Land Use Change and Forestry (LULUCF) sectors. According to the trend approach, considering the same period, there are 9 categories that contributed to 95.19% of the trend in GHG emissions in Burkina Faso. As with the tiered approach, most of the key source categories are from the LULUCF.

Analyzing the key source categories without LULUCF, according to the level approach, in 2022, there are 12 categories that contribute to 95.82% of Burkina Faso's GHG emissions. Half of the key source categories are from Agriculture. Enteric fermentation is the first key source category, followed respectively by direct and indirect emissions from managed soils. Excluding forests, according to the trend approach, over the period 1990-2022, there are 12 categories that have contributed to 95.49% of the trend in GHG emissions in Burkina Faso. The first key source category becomes energy industries.

Indirect gases

The indirect gases identified by the inventory and precursors of the greenhouse effect are NO_X, CO, NMVOC and SO_X.

Improvements to consider

For future inventories, improvements are planned for more completeness in estimating GHGs in different categories.

- manufacturing and construction industry (1A2): take into account the non-energy uses of hydrocarbons in manufacturing industries;
- transport (1A3): exclude non-energy uses of gasoline and take into account other domestic flights;
- mineral industry (2A) grouping the sub-categories cement production, lime production, glass production and other uses: take into account activity data on pottery and artefacts at the ceramic level;
- metal industry (2C): take into account activity data of the metallurgical production unit and the amount of fine coal burned in gold production;
- non-energy products from the use of fuels and solvents (2D) such as paper production, alcoholic beverages and food (meats, poultry, sugar, margarine and solid cooking fats; cakes, biscuits and cereals, bread, fodder and coffee roasting, etc.): take into account the following activity data such as local bread production, breakfast cereal production; etc.
- uses of products such as ODSs - substitutes for ozone-depleting substances (2Fs) such as hydrofluorocarbons (HFCs) and perfluorocarbons (PFCs) are part of the phase-out of ODSs, in accordance with the Montreal Protocol: take into account data including all end-use subcategories of ODS substitutes present in the country;
- manufacture and use of other products (2G): take into account asphalt used for roofing;
- enteric fermentation (3A.1): improve livestock characterization and completeness of livestock data;
- manure management (3A2): improve manure management system allocation at national level using country-specific manure management system data affecting national circumstances based on statistics or other reliable sources;
- land (3B):
    - improve activity data, emission factors and estimation parameters according to climate zones and types of land use;
    - improve the typology of disturbances that determine carbon losses;
    - improve statistical data on marketable timber;
    - elaborate specific parameters on wood density by phytogeographical area;
    - improve data on fire-burned areas by land cover type for the period 1990 to 1999 for which extrapolations were used to determine them;

- improve data on the production and removal of biomass in "perennial crops" in the 4 phytogeographical zones.

- prescribed burning of savannahs (3C1): improve the long series of fire data, including improvement of biomass data available by vegetation type for burning and choices of Emission Factors on the same basis;
- rice cultivation (3C7): improve accuracy through full coverage of emission estimation of all rice water regimes (i.e. ecosystem type, flood models);
- solid waste disposal (4.A): carry out a comprehensive mapping of solid waste landfills at national level;
- biological treatment of solid waste (4.B): carry out a more comprehensive inventory of biological treatment companies;
- incineration and open burning of waste (4.C): identify more exhaustively the functional incinerators and the quantities of waste incinerated by incinerator; waste water treatment and discharge (4.D): have available the industrial production of the different types of industries for the next IGES.

Information needed to monitor progress in implementing and achieving nationally determined contributions under Article 4 of the Paris Agreement

Burkina Faso has committed alongside other UNFCCC country Parties to reduce GHG emissions by submitting its first and second NDCs.

The country, as part of its new ambitions, has a target to reduce its GHG emissions by 29.42% by 2030. This commitment is 19.60% for the unconditional scenario and 9.82% for the conditional scenario. Compared to its first NDC, the country has increased its ambitions by 11.22%. In addition, the country has taken the option of strengthening its adaptation and resilience through the implementation of actions of which reduction ambition is 30.76%, i.e. 20.67% unconditionally and 10.08% conditionally by 2030.

For the implementation of its NDC, the financial needs amount to USD 4,124,231,753 including USD 1,596,368,476 already acquired (unconditional) and USD 2,527,863,277 to be sought (conditional). The gender-specific actions included in the amount to be sought are in the amount of USD 1,379,891.

For its NDC implementation monitoring, adoption of a national Measurement, Reporting and Verification (MRV) system has provided the country with an inclusive and sustainable institutional and legal framework, as well as an effective and functional system for collecting and capitalizing on data to monitor progress as part of NDC implementation. To effectively measure the impact of its actions, Burkina Faso has defined a set of relevant indicators in its NDC, designed to track reductions in greenhouse gas emissions and adaptation to climate change.

Indicators identification and definition were based on a documentation analysis as part of NDC. In Burkina Faso's NDC document, indicators have been identified by sector and sub-sector and their links with

the Sustainable Development Goals (SDGs). This does not make it easy to track the indicators according to the measures and technologies for the sectors in question.
Burkina Faso has used the GACMO (Greenhouse Gas Abatement Cost Model) tool to monitor its NDC indicators and determine emissions and removals. GACMO is a tool used to assess the costs of mitigating greenhouse gas (GHG) emissions.

In addition to the MRV decree, the adoption of decrees on the creation, remit, composition, organization and operation of the National Climate Change Committee (CNACC) and the Single Concertation Framework for Environmental Conventions (CCUC) have strengthened the legal framework, making it easier for stakeholders to monitor progress in implementing the NDC.

Relevant policies and strategies aimed at reducing greenhouse gas emissions and supporting the achievement of the NDC have been mapped in line with the orientations and guidelines for monitoring progress in the implementation of the NDC in the different sectors such as Energy, Transport, AFAT and Waste. The policies selected by sector are:

- AFAT : National Strategy for Soil Restoration, Conservation and Recovery (SNRCRS) and Burkina Faso's National REDD+ Strategy (SN-REDD+);
- ENERGY : Sectoral energy policy (POSEN) 2014-2025 ;
- WASTE: Environment, Water and Sanitation (PS-EEA) sector policy (2018-2027).

Information on climate change impacts and adaptation under article 7 of the Paris agreement

- ***Current and future climate trends***

In general, for Burkina Faso as a whole, isotherm migration between 1991 and 2023 shows a rise in average temperatures. An increase in total precipitation was also noted, after the drop observed during the normal period 1971-2000. Similarly, climate projections predict a minimum 0.8◦C increase in air temperature in Burkina Faso. This rise is expected to be more pronounced in the SSP5-8.5 scenario and the period 2051-2080, especially in the north of the country with 4.5◦C. By 2100, a maximum rise of around 1◦C, 2◦C and 5.5°C is forecast under SSP1-2.6, SSP2-4.5 and SSP5-8.5, respectively. A significant increase in annual precipitation is also expected in all regions of Burkina Faso, with a maximum rise of around 20% by 2100.

- ***Main climate risks and their projections***

The country faces various climatic risks, the main ones being droughts, floods and heat stress. A significant increase in flooding, heavy rainfall and heat stress is forecast for the 2021-2050 and 2051-2080 horizons, depending on the climate scenarios (SSP1-2.6, SSP2-4.5 and SSP5-8.5). Overall, an early start to the rainy season is forecast for the periods 2021-2050 and 2051-2080 (except in the SSP5-8.5 scenario). The models agree on a late end to rainfall in the future, with a time lag of up to 5 days for the period 2051-2080 in SSP5-8.5. In terms of drought pockets, changes are not significant over a large part of the territory, and point to major uncertainties.

- ***Observed and potential impacts, and vulnerabilities***

We note that development sectors and populations are impacted by the effects of climate change and present various levels of vulnerability. Most development sectors have a high to very high level of vulnerability. This is the case in the agriculture, livestock, water resources, health and environment/natural resources sectors. At the population level, farmers and stockbreeders are more

vulnerable to climate risks. The same is true for people with reduced mobility, the elderly and women.

- ***Approaches, methods and tools, uncertainties and related challenges, with regard to climate risks and their projections, observed impacts and vulnerabilities below***

Approaches, methods and tools adapted to the resources and capacities available have been used to produce climate and vulnerability information. The results of current and future climate trends and risks are derived from a quantitative approach by processing current and projected climate data using software and Programmes such as RCLIMDEX, Python and Fortran. In terms of vulnerability, information comes from a quantitative approach based on people's perceptions and expert consultation, using individual questionnaires and vulnerability scorecards respectively.

- ***National priorities and progress towards achieving them***

Burkina Faso's national priorities for adaptation to climate change are varied, and aim to strengthen the country's resilience in the face of climatic impacts. These priorities are integrated into Burkina Faso's National Adaptation Plan (NAP, 2024), which aims to guide adaptation actions in Burkina Faso.

- ***Challenges, gaps and barriers to adaptation***

In terms of the major challenges linked to adaptation, we can mention the following: (i) strengthening adaptive capacities of priority sectors, (ii) developing research into adaptation to climate change, and (iii) governance for adaptation to climate change.

In terms of shortcomings, the 2015 NAP assessment revealed:

- a lack of knowledge of the NAP on the part of some of those responsible for its implementation ;
- failure to operationalize the institutional mechanism for monitoring and evaluating the NAP ;
- inadequate monitoring of gender-related NAP actions ;
- weak institutional capacities ;
- insufficient climate data.

With the aim of strengthening the country's capacity for adaptation, the implementation of the Readiness NAP (2022-2024) and the CBIT initiative has made it possible to fill some of the gaps. In addition, the introduction of the MRV system and platforms (MRV, ONEDD, adaptation website) will facilitate the sharing of climate data.

- ***Adaptation policy documents and strategies***

Several adaptation-related policies, strategies, plans and measures have been drawn up to improve the population's resilience to the impacts of climate change. They include, for example:

- the second National Economic and Social Development Plan (PNDES II, 2021-2025) ;

- National Sustainable Development Policy ;
- National Climate Change Adaptation Plan (PNA, 2024-2028) ;
- Nationally Determined Contribution (NDC, 2021-2025) ;
- Gender and Climate Change Action Plan (2024-2026) ;
- regional adaptation plans (RAP) ;
- National Learning Strategy on Climate Change (2016-2025).

In addition, the development of guides for integrating adaptation to climate change into development frameworks represents a significant step forward in terms of integrating adaptation into the country's overall policy.

- ***Status of adaptation actions under the first National Adaptation Plan***

An evaluation of the first NAP implementation was carried out in 2020. The assessment results show that for the period 2015-2020, out of a total of 143 actions programmed for all sectors, 96 actions had been completed or were underway at the time of assessment, i.e. a rate of 67%, compared with 47 actions that had not yet got off the ground, i.e. a rate of 33%.

- ***Status of NDC adaptation actions***

In the 2015 NDC, 31 adaptation measures or projects were planned, with a reduction potential of around 43,707Gg Eq-CO2 by 2030. The 2020 assessment shows a reduction of 38,898 Gg Eq-CO2 of greenhouse gases (GHGs), or 89% of the target. Thanks to the implementation of adaptation actions, Burkina Faso has been able to meet its commitments in terms of reducing GHG emissions by 2025.

In addition to measures and actions carried out as part of the assessment of the state of NAP and NDC implementation, several adaptation projects/Programmes and initiatives are underway.

- ***Monitoring and evaluation of adaptation measures and processes***

The adaptation monitoring and evaluation system relies on national bodies involved in the fight against climate change, in particular the MRV and the CNACC.

This system comprises: i) a national technical steering committee, ii) a national reporting committee, iii) sectoral technical committees, iv) a regional dialogue framework.

- ***Information on the prevention, reduction and treatment of loss and damage associated with the impacts of climate change***

A number of initiatives have been put in place to prevent and reduce losses and damage linked to the adverse effects of climate change. These include:

- setting up early warning systems to rapidly inform populations of impending climate risks;

- Capacity-building and awareness-raising to inform the population about climate risks and the measures to be taken in the event of extreme phenomena;
- mapping of vulnerable areas in order to better plan and implement appropriate prevention and response measures ;
- resizing certain road infrastructures to make them more resistant and efficient under extreme weather conditions;
- working with international organizations to obtain the funding and technical resources needed to implement loss and damage financing strategies.

In addition, there are legal and institutional provisions for managing loss and damage linked to disasters and humanitarian crises. These include SP/CONASSUR and Orientation LAW N°012-2014/AN on the prevention and management of risks, humanitarian crises and disasters, adopted on April 22, 2014.

- ***Cooperation, best practices, experiences and lessons learned***

This essentially involves taking action, i.e. making efforts and strengthening scientific research and knowledge with a view to sharing information, best practices, experiences and lessons learned.

Information on financial assistance, development and technology transfer assistance and capacity building assistance required and received under Articles 9 to 11 of the Paris Agreement.

For the purposes of this report, estimated aid needed for climate action is based on the approach used by UNFCCC to assess the financing needs of developing countries through its technical report published in 2021. Indeed, the needs identified and formulated by developing country parties to the UNFCCC are assessed through the types of national reports taking into account financing, development, technology transfer and capacity-building needs (UNFCCC, 2021). Thus, Burkina Faso's needs in terms of climate financing are estimated based on national benchmarks on climate change, namely the Nationally Determined Contribution (NDC, 2021-2025), the National Adaptation Plan (NAP, 2024-2028), the 2050 Vision for low-carbon and climate-resilient development in Burkina Faso (LT-LEDS), Technology Needs Assessment (TNA), the Biennial Updated Report (PRBA, 2021), etc.

In order to avoid double counting, the analysis of climate financing needs is carried out essentially on the basis of the financial needs expressed in the documents cited above.

To identify the channel, it will be enough to analyze the parties involved in the interaction. If the interaction involves only two (02) parties, it is a bilateral channel. If multiple parties from the same region are involved, it is a regional channel. If the interaction involves multiple parties globally or across different regions, it is a multilateral channel.

If the interaction involves multiple parties globally or across different regions, it is a multilateral channel. Thus, support is qualified as mitigation when the intervention aims to reduce emissions or strengthen greenhouse gas sinks (IPCC, 2018). It is supposed to be an adaptation support when it comes to an adjustment process to the current or expected climate as well as its consequences, in

order to mitigate the harmful effects and exploit the beneficial effects. Cross-sectoral or cross-cutting support refers to support that simultaneously targets mitigation and adaptation objectives. To this end, it includes combined mitigation and adaptation approaches.

Thus, and taking into account the above considerations, to achieve the target of 29.42%, under its Nationally Determined Contribution (NDC), an amount of USD 885,670,522 is necessary for the conditional scenario. Also, Burkina Faso in its NDC considered adaptation actions with mitigation co-benefits and whose potential for reducing GHG emissions is estimated at 33,072.72 Gg Eq-CO_2. This results in a financial requirement for the implementation of the actions of the conditional scenario which amounts to USD 1,640,812,864. In relation to gender, which is cross-cutting, the specific financing needs for GHG reduction initiatives amount to USD 1,379,891.

The total support required under the NDC is USD 2,527,863,277. Indeed, the required resources are aligned with the financing needs of the conditional actions of the NDC which present a percentage of reduction of emissions of 9.82% for mitigation actions and 10.08% for adaptation actions. This assumes that if resources are not effectively mobilized, there will be a cumulative shortfall (mitigation and adaptation) of 19.9% in terms of potential emission reductions under the NDC. This would also constitute a gap towards achieving the objectives of the Paris Agreement.

The support received by the country under Article 9 through bilateral sources and estimated on the basis of the projects communicated to date amounts to sixty-seven billion eight hundred and thirty-five million two hundred and eighty-one thousand five hundred and fifty-two (XOF 67,835,281,552.100) or one hundred and twenty-three million, three hundred and thirty-six thousand eight hundred and seventy-five US dollars (USD 123,336,875.549).
Under Article 10, the Convention technology mechanism provides for the submission by countries of requests for technical assistance and their assessment by the Climate Technology Centre and Networks (CTCN). The assessment is sanctioned by a process of refinement and development of Response Plan. This last step follows the intervention plan step and will result in the final validation of the project and its effective implementation. However, Burkina Faso's requests were limited to the response plan stage. It can therefore be said that the country has not received technical assistance from the CTCN. However, after the prioritization assessment of technological needs, barriers treatment and analysis and identification of framework conducive to dissemination of selected technologies. A Technological Action Plan and project ideas have been developed by the country with a financing need estimated at XOF 205.594 billion.

Support required under Article 11 of the Paris Agreement is assessed based on readiness requests to Green Climate Fund (GCF), the overall cost of which is USD 7,400,000. Under the same article, Burkina Faso received support for the deployment of seven (07) Readiness Programmes (three of which are under implementation), the overall cost of which is USD 8,365,466.001.

Total transparency support received amounted to USD 3,043,720 or USD 1,916,000 for developing transparency reports and USD 1,127,720 for transparency-related capacity building.

Based on previous experiences in documents development, the country will need an average of USD 319,333.333 for each report exercise in the context of compliance with its commitments under Article 13 of the Paris Agreement.

I. BACKGROUND AND RATIONALE

The international community has adopted legal instruments to address the adverse effects of climate change. These are the United Nations Framework Convention on Climate Change (UNFCCC), adopted in 1992, the Kyoto Protocol in 1997 and the Paris Agreement in 2015.

In accordance with paragraph 1(a) of Article 4, paragraph 1(a) of Article 12 of the UNFCCC, paragraph 4 of Article 13 of the Paris Climate Agreement and Decisions 17/CP.8, 1/CP. 16, 2/CP. 17 and 1/CP.21, Parties shall prepare and submit to the UNFCCC Secretariat, National Communications (NCs), Biennial Update Report (BURs) and Biennial Transparency Reports (BTRs) on climate change. Burkina Faso in fulfilling its commitments to the UNFCCC, submitted three National Communications on Climate Change, namely, the Initial Communication in May 2002, the Second in April 2015, the Third in October 2022, and its first Biennial Update Report (BUR1) in November 2021.

In addition, the Paris Agreement established a transparency framework to build trust between Parties and thereby enable reporting on efforts made and support received in the context of mitigation, adaptation, finance, capacity building, technology development and transfer.

Under this framework, the Parties to the Paris Agreement are required to submit BTRs every two years and the first submission of this is scheduled for December 31, 2024 at the latest. According to the Enhanced Transparency Framework (EGF) modalities, procedures and guidelines (MPGs), the BTRs include information on national inventory reports (NIRs), progress towards achieving NDCs, policies and measures, climate change impacts and adaptation, levels of financial support, technology development and transfer, capacity building needs and areas for improvement.

Burkina Faso has committed to producing its first BTR combined with its QCN. It obtained financial support from the Global Environment Facility through the United Nations Environment Programme (UNEP) under the project entitled *"First and Second Biennial Reports on Transparency and Fourth National Communication of Burkina Faso (BTR1/QCN & BTR2)"*. The process was launched in August 2023 and mobilized several experts for the different chapters that make up the BTR.

The report completion required:

- consultation and framing meetings with experts teams and coordination of BTR1/QCN & BTR2 project at SP/CNDD level;
- reviews of available literature to provide information and data on climate change in Burkina Faso (scientific articles and official country reports on climate change);
- informing and sensitizing stakeholders with a view to strong adherence to the process and facilitating data collection;
- data collection from institutions and contacts;
- working sessions between experts to facilitate information collection, analysis and processing ;
- holding a steering committee session and monitoring the process to review deliverables and provide guidance;
- compilation and consolidation of deliverables by an ad hoc committee;

- validation through a national workshop;
- finalisation and submission of the BTR1/QCN.

This report is organized around four chapters:

- Chapter 1 presents the national greenhouse gas inventory report;
- Chapter 2 deals with information needed to monitor progress in implementing and achieving nationally determined contributions under Article 4 of the Paris Agreement;
- Chapter 3 deals with information on climate change impacts and adaptation under Article 7 of the Paris Agreement;
- Chapter 4 provides information on financial support, technology development and transfer, and capacity building required and received under Articles 9 to 11 of the Paris Agreement.

II. NATIONAL SITUATION AND INSTITUTIONAL ARRANGEMENTS FOR CLIMATE CHANGE

2.1 Bio-geophysical situation

2.1.1. Geographical and administrative location

Burkina Faso is a landlocked country in sub-Saharan Africa located in the heart of West Africa, in the area of the Niger River loop, between 9°20' and 15°05' north latitude, 5°20' west longitude and 2°03' east longitude. It covers an area of 273,187 km² (BDOT/IGB, 2020). It is bordered to the north and west by Mali, to the east by Niger, to the south by Côte d'Ivoire, Ghana, Togo and Benin.

Burkina Faso is divided into 13 administrative regions, 45 provinces and 351 municipalities. There are 49 urban municipalities including Ouagadougou the political capital and Bobo-Dioulasso the economic capital (Diagram 1). Since 2004, Burkina Faso has embarked on a policy of decentralization with the aim of strengthening the capacities of local authorities.

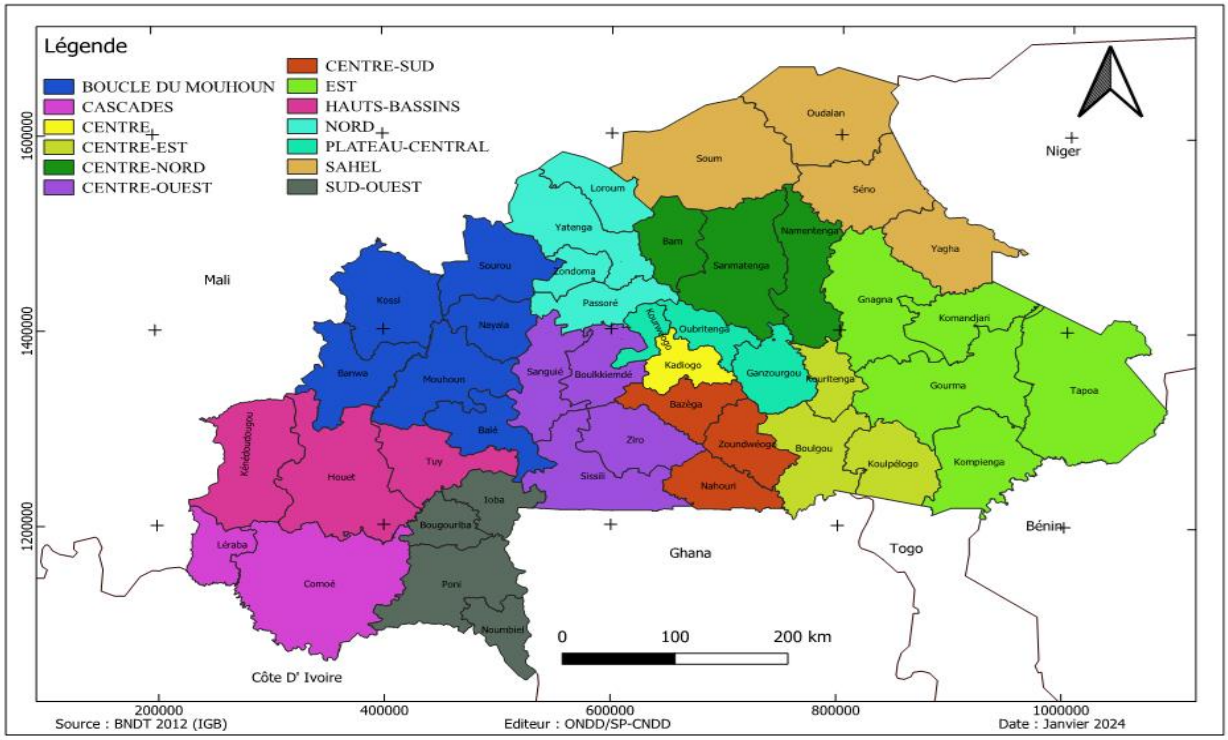


Diagram 1 : Administrative division of Burkina Faso

2.1.2. Phytogeographical profile

Burkina Faso is subdivided into two phytogeographical domains according to the climate-flora-vegetation trilogy (Guinko, 1985) (Diagram 2).

The first, of the Sudanese type covers the southern and central parts of the country. It includes the South Sudanese and North Sudanese phytogeographical sectors (Diagram 2).

The second, of Sahelian type, covers the northern part of the country; it includes the sub-Sahelian and North-Sahelian or strict Sahelian phytogeographical sectors.

The descriptive data of the biophysical environment (climate, soils, vegetation, and hydrography) come from the following main sources: Thiombiano and Kampmann (2010), MEE (2005), BUNASOLS (2015), MEEA (2022).

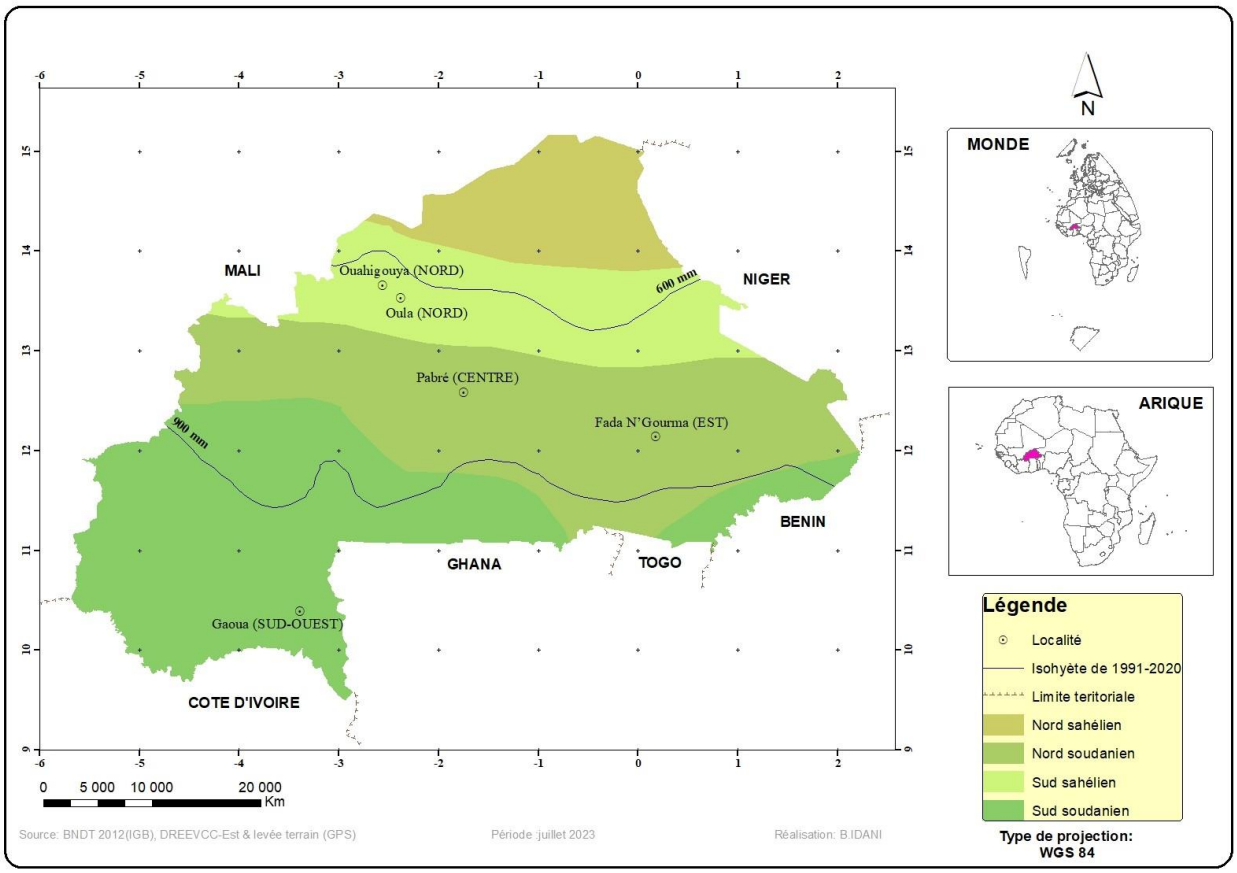


Diagram 2 : Map of Burkina Faso phytogeographical sectors

2.1.3. Hydrographic network and water resources

The country's hydrographic network consists of three international watersheds: the Volta, Niger and Comoé. The country also had 1,035 dams in 2020 with an average age of 40 years and high density in the Central region, as shown in Diagram 3 (Kabore et al., 2024).

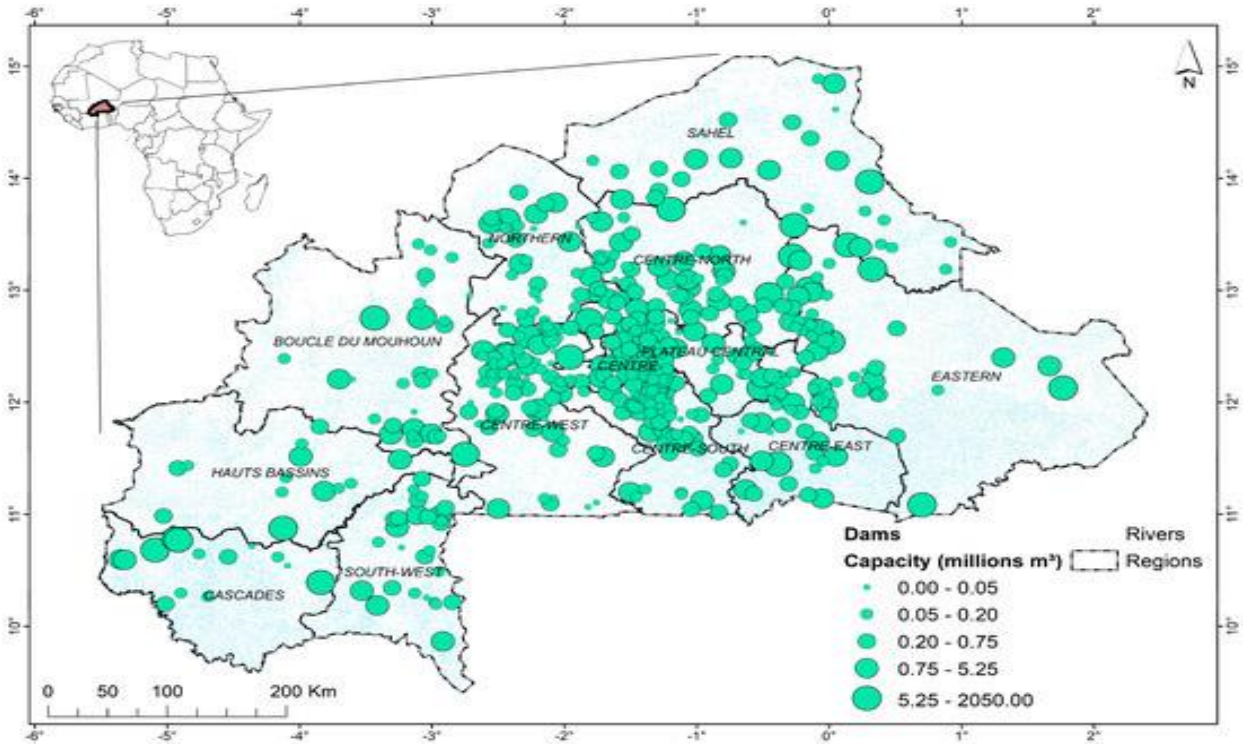


Diagram 3 : Spatial distribution of water bodies in Burkina Faso
Source : DGRE, 2020

According to the ND-GAIN index (2022), Burkina Faso is extremely vulnerable to water-related stressors. No perennial rivers cross the north of the country, and there are only two rivers in the rest of the territory: the Mouhoun and Nakanbé rivers (Belemtougri et al., 2021, USAID, 2017). As a result, people in the north of the country are increasingly relying on wells, individual reservoirs and intermittent streams to meet their needs. Many people also depend on surface water sources, which suffer the adverse effects of climate change (MSF, 2021). Thus, any climate disaster, such as a drought, is likely to generate a water crisis (Water Aid, 2021). To this end, multiple actions are taken by the State to reduce water stress and the latest is the reactivation of the National Office of Dams and Hydro-agricultural Development (ONBAH) during the Council of Ministers on 29 May 2024. ONBAH's main mission is to intervene on hydraulic infrastructures, including dams, small water reservoirs, wells and boreholes.

2.1.4. Relief

Burkina Faso has a relatively flat terrain with the highest point being Mount Tenakourou at 749 meters. This configuration is not conducive to efficient rainwater retention for agriculture and other uses. Indeed, according to Burkina's water agencies, high-altitude areas may have more abundant water sources, while low-altitude areas may be more prone to drought (AEB, 2024). This situation is exacerbated by the impacts of climate change to which the country should adapt for effective water resource mobilization.

2.1.5. Biological Diversity

The country is home to a variety of plant and animal species. According to the national biodiversity monograph carried out in 2021, there are 531 woody species, 1779 herbaceous species, 301

cultivated species, 636 species of algae, 128 species of macroscopic fungi, 28 species of microscopic fungi, 26 species of ferns, 120 species of fish, 520 species of wild birds and 23 breeds of farmed birds, 140 species of wild mammals, 91 breeds of farmed mammals and 51 species of bats and 104 species of reptiles.

However, this biological diversity is threatened by forest loss, with about 83,584 hectares of forest lost each year. Deforestation severely affects local ecosystems and the food chain. Therefore, the national monograph also reveals that 350 species of plant origin, 12 species of wild mammals, 19 species of birds, 24 species of reptiles and 48 species of fish are threatened with extinction.

Unsustainable logging, unplanned agricultural expansion and climate change are the main causes of species decline (MEEVCC, 2020).

Efforts are being made by the government to raise awareness and involve local communities in the conservation of biological diversity through climate change adaptation Programmes. Local organizations also work to promote sustainable practices and influence public policy.

2.2 Socio-demographic situation

2.2.1 Population profile

The Burkinabe population has been steadily increasing for decades. Diagram 4 gives an indication of the evolution of the population size by sex from 1975 to 2035.

The last General Census of Population and Housing (RGPH, 2019) indicates a total population of 20,505,155 inhabitants with 51.7% of women and 48.3% of men while it was 14,017,262 inhabitants according to 2006 General Census. This corresponds to a population growth rate of 2.94% between 2006 and 2019. Population density has increased steadily over time. It increased from 51.4 inhabitants/km^2 in 2006 to 75.1 inhabitants/km^2 in 2019. The proportion of the urban population increases steadily over time. It increased from 22.7% in 2006 to 26.3% in 2019. Rural areas concentrate 73.7% of this population (about 3 out of 4 individuals) who earn their living at more than 80% from exploiting natural resources, agriculture, livestock, forestry and fisheries resources (MEEA, 2021).

The 2019 General Census counted 3,908,847 households. About one in six households is headed by a woman. Households are distributed variably between regions. The largest number of households reside in the Center region (718,272 households).

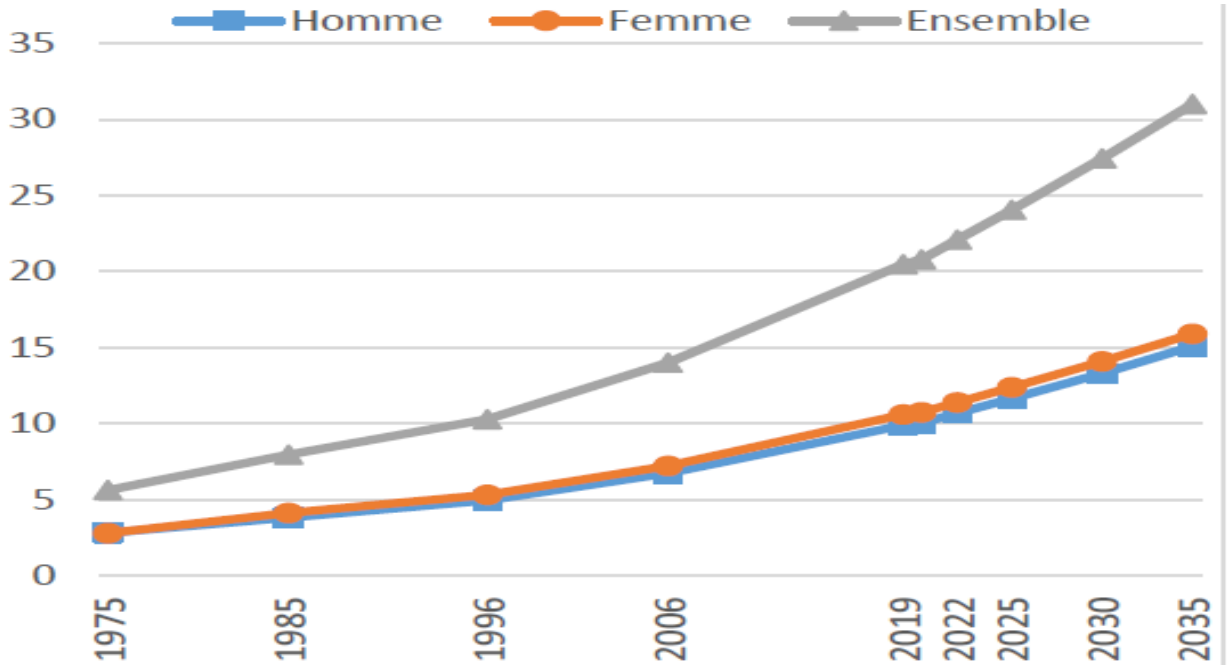


Diagram 4 : Indication of population size evolution by sex from 1975 to 2035

Source: INSD, Demographic Dashboard, 2022

2.2.2 Economic situation

Le Burkina Faso is a low-income Sahel country with limited natural resources. Its economy is based on agriculture and mining production, especially gold.

Since 2020, Burkina Faso economy has been hard hit and the country's economic situation has not improved significantly due to the challenges in terms of both security (attacks by armed terrorist groups) and health (COVID 19). The situation has been further affected by the political crises that the country has been experiencing in recent years and the international geopolitical situation.

The rise in international prices of raw materials due to the war in Ukraine and the difficult security situation aggravate the existing vulnerabilities of the Burkina economy.

Despite the many challenges, the economic growth rate reached 3.6% in 2023, remaining below the 6% recorded over the period 2010-2019. The economy is driven by the tertiary sector (services) and the primary sector (agriculture) while extractive activities continue to be affected by the security context. In terms of demand, the increase in final consumption supported growth. Inflation slowed from 14.1% in 2022 to 0.7% in 2023, due to improved food supplies and a well-controlled monetary policy.

The budget deficit decreased from 10.4% of GDP in 2022 to 6.9% in 2023, thanks to the increase in tax revenues (17.8% of GDP in 2023 compared to 17.0% in 2022). The reform Programme agreed in September 2023 between Burkina Faso and the International Monetary Fund (IMF) has strengthened fiscal discipline and economic governance. But security-related spending remains high, limiting budget margins. The risk of over-indebtedness remains moderate, although public

debt, estimated at 60.8% of GDP in 2023, has increased with the increased issuance of public securities. The current account deficit deteriorated to 8.2% of GDP in 2023 following a decline in the value of cotton exports.

The following Table 1 shows the evolution of the main economic aggregates according to the latest data provided by the INSD.

Table 1 : Growth indicators

Growth indicators	**2018.**	**2019.**	**2020.**	**2021.**	**2022.**
Gross Domestic Product (GDP) in billions	14.71.	15.8.	17.2.	18.25.	19.63.
Gross Domestic Product (*% by volume*)	1.1.	5.7.	1.9.	6.9.	1.5.
Gross Domestic Product per Capita (USD)	711.	779.	817.	847.	885.
Public debt (in billions of USD)	0.43.	0.57.	0.93.	1.35.	1.18.
Inflation rate (%)	1.96.	-3.23.	1.88.	3.65.	14.29.
Unemployment rate (%)	4.7.	4.71.	5.15.	5.36.	5.07.

Source: INSD, 2023

In 2023, nominal GDP reached a level equivalent to about six times that of the early 2000s, rising from 2,108 billion to XOF 12,344 billion. As for real GDP per capita over the same period, it increased from XOF 226,000 to 382,000, which represents an absolute increase of about 70% and an average annual growth rate of 2.2% (BCEAO, 2023).

The breakdown by sector shows that the economy remains structurally dominated by the tertiary sector (51.1%), followed by secondary (25.4%) and primary (23.4%). This system, apparently similar to that of developed economies, is the consequence of a very high informality and a secondary sector driven by the extractive industry since the beginning of the mining boom around 2008. The economy dynamism remains dependent on climatic hazards and is, today, strongly affected by socio-political and security instability.

In addition, unemployment is gradually increasing, reaching 5.35% in 2022, with significant socio-economic disparities. Unemployment among young people aged 15 to 24 is particularly high, and women are also more affected by this phenomenon than men (INSD, 2024).

In addition, the average hourly wage in Burkina Faso is estimated at XOF 1,655, or about US $3, and 28.2% of workers earn a monthly income below the SMIG. As a result, Burkina Faso's per capita income remains low and this situation aggravates poverty and the vulnerability of populations to climate shocks. Hence the drop in the Human Development Index (HDI), which fell from 0.332 in 2000 to 0.452 in 2021, placing Burkina Faso 184th out of 191 countries. However, several instruments to reduce poverty and vulnerabilities to climate change are being developed by the country, the latest of which are the PNDES II, the NDC and the updated NAP that plan national priorities.

2.2.3 Political and security context

In recent years, Burkina Faso has been strongly marked by socio-political instability that has led to institutional instability, a relative decline in the interventions of technical and financial partners.

As for Burkina Faso security context, it has been marked since 2015 by repeated terrorist attacks, causing significant population displacements. Official statistics provided by the National Emergency Relief and Rehabilitation Council (CONASUR) indicate that as at March 31, 2023, the number of Internally Displaced Persons (IDPs) was 2,062,534 distributed in 303 communes, composed of 23.91% women, 17.59% men and 58.50% children. This situation could plunge displaced people, especially women, young people and children, into difficult conditions, thus exacerbating their vulnerabilities to climate risks. This could also result in competition in the use and exploitation of already scarce natural resources.

To this end, Burkina Faso, Mali and Niger have therefore created the "*Alliance of Sahel States (AES)*" within which they intend to pool their efforts against terrorism through a common defense architecture and against climate change through structuring and endogenous projects to strengthen local knowledge for effective resilience to climate risks.

2.3 Climate profile

Burkina Faso is subdivided into three climatic zones: the Sahelian zone, the Sudano-Sahelian zone and the Sudanian zone. The boundaries of these subdivisions show a northward migration of isohyets under climate change influence as shown in the Diagram 5 following:

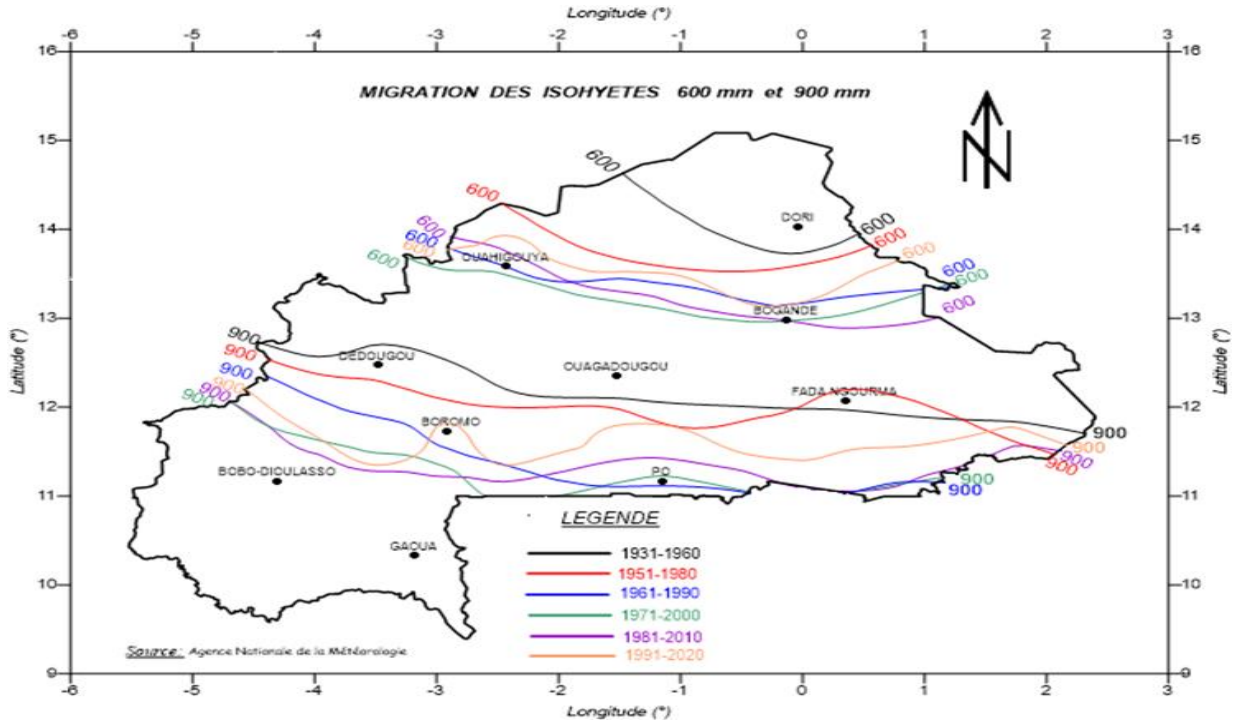


Diagram 5 : Migration of 600 and 900 mm isohyets

The country faces various climate risks, the main ones being droughts (including late onset of rains, early endings of rains, length of season and pockets of drought), floods (including extreme rains), and heat stress. A significant increase in flooding, heavy rainfall and heat stress is forecast for the 2021-2050 and 2051-2080 horizons, depending on the climate scenarios (SSP1-2.6, SSP2-4.5 and SSP5-8.5). Overall, an early start to the rainy season is forecast for the periods 2021-2050 and 2051-2080 (except in the SSP5-8.5 scenario). The models agree on a late end to rainfall in the future, with a time lag of up to 5 days for the period 2051-2080 in SSP5-8.5. In terms of drought pockets, changes are not significant over a large part of the territory, and point to major uncertainties.

2.4 Climate Gouvernance

Climate governance in Burkina Faso is built on a set of entities responsible for the planning and implementation of policies and Programmes related to the fight against climate change. They bring together both public and private actors and are part of the country action sustainability.

Among the state actors, we can mainly mention:

- **the Ministry of Environment, Water and Sanitation (MEEA)**, which is responsible, among other things, for the development, coordination and monitoring of national climate change policy. The Permanent Secretariat of the National Council for Sustainable Development (SP/CNDD), the Permanent Secretariat of REDD+ (SP/REDD+) and the Directorate General of Green Economy and Climate Change (DGEVCC) are the MEEA technical structures in charge of implementing and monitoring activities related to the theme;
- **the Prime Ministry through in particular the Executive Secretariat of the Green Climate Fund in Burkina Faso (SE-FVC/BF)** led by the Designated National Authority of the Green Climate Fund (AND/FVC) and which provides the interface between the Executive Secretariat of the Green Climate Fund in Burkina Faso and the Government of Burkina Faso;
- **the Ministry of Agriculture, Animal Resources and Fisheries**, whose Directorates, in particular those in charge of crop production, animal production and fisheries resources, are heavily involved in national climate action;
- **the Ministry of Energy, Mines and Quarries** through the Directorate-General for Energy, the National Agency for Renewable Energy and Energy Efficiency and the Burkina Faso Agency for Rural Electrification **;**
- **the Ministry of Economy, Finance and Forecasting** which, through, among others, the Directorate General for Planning, the Directorate General for Budget and the Directorate General for Cooperation, contributes to the national policy on climate finance implementation;
- **the National Assembly** through its role of controlling government action;
- **Local authorities** through the decentralized management of the environment and natural resources.

In addition to these institutions, other ministries contribute to national climate action. These include the ministry in charge of gender, transport, health, infrastructure and housing, scientific research and innovation.

Non-state actors working in climate action are Non-Governmental Organizations and Associations, the private sector, technical and financial partners (TFPs).

In addition, consultation frameworks have been set up at the national level and offer all stakeholders a forum for exchange, reflection and sharing for concerted and inclusive national climate action.

The legal and policy framework takes into account the international instruments to which the country has subscribed, national regulations as well as policies, strategies, plans and Programmes.

Among the legal instruments, we can mainly list:

- **the international conventions and agreements ratified by Burkina Faso, namely:** the United Nations Framework Convention on Climate Change, ratified on 2 September 1993, the Kyoto Protocol ratified on 31 March 2005 and the Paris Climate Agreement ratified on 11 November 2016;
- **Burkina Faso constitution** which, from preamble, affirms the absolute need to protect environment ;
- **Law No. 008-2014 / NA of 8 April 2014** on the Sustainable Development Orientation Law;
- **Law No. 006-2013 / AN of April 2, 2013** on the Environmental Code in Burkina Faso
- **Law No. 003-2011 of 5 April 2011** on the Forestry Code in Burkina Faso;
- **Law No. 002-2001 / AN of 8 February 2001** on the Orientation Law on Water Management
- **Law No. 070-2015/CNT of 22 October 2015** on the Agro-Sylvo-Pastoral, Fisheries and Wildlife Guidance Law in Burkina Faso;
- **Law No.0362015/CNT of 29 October 2015 on** the Mining Code of Burkina Faso;
- **Decree No. 2024-0340/PRES-TRANS/PM/MEEA/MEFP/MARAH** establishing, attributions, composition, organization, and functioning of the national committee on climate change;
- **DecreeNo.2024-0305/PRES/TRANS/PM/MEEA/MEFP/MARAH/MDICAPME/MEMC/MTMUSR** establishing the National Measurement, Reporting and Verification System for Climate Transparency;
- **Joint order n°2022-00520/MEFP/MEEA of December 30, 2022** on the creation, attributions, organization, composition and functioning of a framework for consultation of national focal agencies on climate finance mobilization;
- **Order No. 2022-011/MEEA/CAB of December 1, 2022** on the creation, attributions, organization, composition and operation of a single consultation framework for environmental conventions;

- **Order No.2024-028/MTMUSR/CAB/ANAC of July 30, 2024** on carbon reduction for international aviation (CORSIA).

Policy, strategy, plan and Programme documents include:

- **the National Economic and Social Development Plan II (2021-2025)** adopted in 2021 and which constitutes the framework guiding economic and social development in Burkina Faso;
- **the Action Plan for Stabilization and Development (PA-SD)**, which is part of the same dynamic of reducing greenhouse gas emissions;
- National Climate Change **Adaptation Plan (NAP)** 2024-2028
- **Nationally Determined Contribution** 2021-2025:
    - **Sectoral Policy "Water, Environment Sanitation" 2018-2027**,
    - **Sectoral Policy "Agro-silvo-pastoral production" 2017-2026**;
    - **"Economic Governance" sectoral policy 2017-2026 ;**
    - **National Gender Strategy 2020-2024;**
    - **the national REDD+ strategy** 2024-2033.

CHAPTER 1 : NATIONAL INVENTORY REPORT

1.1 National circumstances and institutional arrangements related to the greenhouse gas inventory

1.1.1. General information on greenhouse gas inventories in Burkina Faso

The GHG inventory forms the basis for developing a national communication on climate change. Burkina Faso is in its fourth year, having already reported three GHG inventories to the UNFCCC. The first as part of its Initial National Communication (INC) for the period from 1990-1997, the second carried out in connection with the second National Communication (SNC) for the period from 1999 to 2007 and the third for the Third National Communication (NC3) having been carried out over the period from 1995 to 2017. The current inventory for the fourth National Communication (NC4) covers the period from 1990 to 2022.

These inventories, carried out following the rigorous methodologies defined by the Intergovernmental Panel on Climate Change (IPCC), mainly concern economic sectors that emit GHGs, namely: Agriculture, Land Use, Land Use Change and Forestry (LULUCF), Energy, Waste and Industrial Processes and Product Use (IPPU).

According to 3rd national greenhouse gas inventory results, national GHG emissions in Burkina Faso are trending upwards between 1995 and 2015. GHG emissions from the Land Use, Land Use Change and Forestry (LULUCF) increased from 36,648 Gg CO_2 eq in 1995 to 66,000 Gg CO_2 eq in 2015, an increase of 80%. This increase in national GHG emissions was observed in all sectors covered by the national inventory. Emissions from the Agriculture Forestry and Other Land Use

(AFAT) sector had increased by 69%, those from Energy by 8%, waste by 2% and that of Industrial Processes and Chemicals Use (AFOLU) by 1%.

In a dynamic to reduce this emission trend, Burkina Faso, through its Nationally Determined Contribution (NDC), has committed to reducing its GHG emissions by 31,682.3 Gg Eq-CO_2 by 2030, or 29.42% compared to the *Business As Usual* scenario.

1.1.2. Description of the greenhouse gas inventory institutional arrangements

The institutional framework was built around a pool of sectoral experts, a steering and monitoring committee and a GHG Inventory management unit:

- *A Steering and Monitoring Committee* is responsible for guiding, monitoring and approving the annual work plans and validating GHG Inventory reporting different phases. It is composed of representatives of ministerial departments, technical and financial partners, civil society organizations, farmers' organizations, training institutions, research and the private sector concerned with climate change issues;
- *A project management unit* is responsible for the regular monitoring of the implementation of project activities. It is composed of a National Director, a Coordinator and technical and financial assistants;
- *A pool of experts* is responsible for carrying out GHG Inventory with the support of public administration officials.

Meetings were held as part of the committee's work and technical workshops were organized in Ouagadougou and Bobo-Dioulasso for the benefit of public and private data custodians to develop GHG Inventory reports. During these workshops, a roadmap for the inventory was presented and adopted by stakeholders.

The GHG inventory carried out by the team of experts under the Coordinator’s supervision is part of Burkina Faso First Biennial Transparency Report and the Fourth National Communication. The main activities were executed according to the path below (Diagram 6).

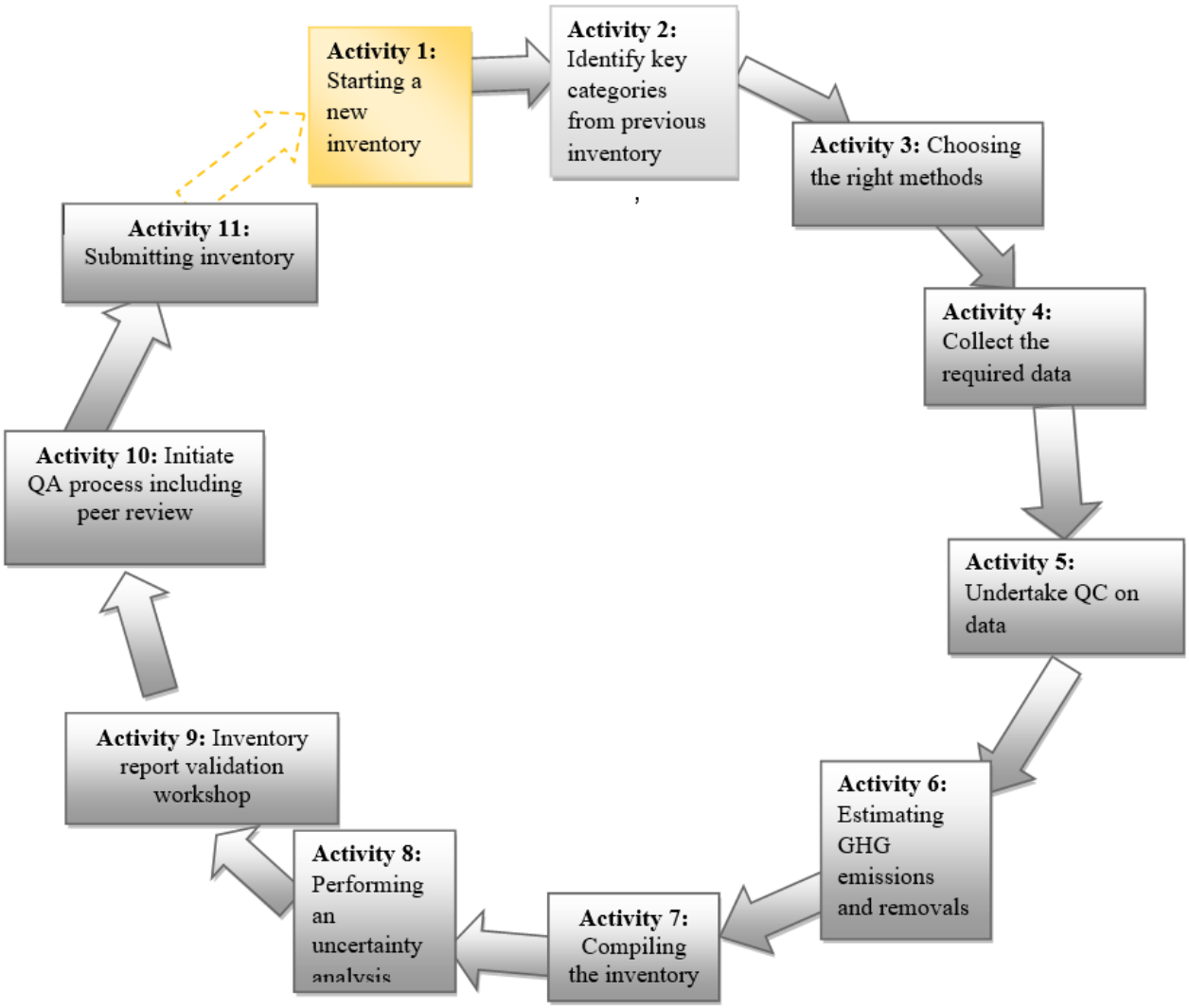


Diagram 6 : Inventory development cycle activities and timefranes

1.1.3. National entity in charge of GHG Inventory

The Ministry of Environment, Water and Sanitation (MEEA) through the Permanent Secretariat of the National Council for Sustainable Development (SP/CNDD), is in charge of the development of the Greenhouse Gas Inventories (GHGI) as the focal structure of the UNFCCC. As such, the SP/CNDD coordinates the inventory and archives the data in accordance with IPCC guidelines and decisions of the Conference of the Parties. This data includes Emission Factors (EFs and estimation parameters), disaggregated Activity Data (AD), and documentation on how the factors and data were generated and aggregated for inventory preparation. This data also includes internal documentation on QC/QA procedures, documentation on the identification of key categories and planned improvements.

1.1.4. Process for Inventory development

The GHG inventory development process (IGES) falls within SP/CNDD responsibilities. Thus, as the focal structure of the UNFCCC, it ensures GHGI full coordination, in form of a fixed-term project led by a management unit set up for this purpose.

The inventory is also supervised by a Steering Monitoring Committee (SMC). This committee brings together the main stakeholders of climate action. The mandate of the SDC is to ensure the effective implementation and exploitation of results. The development approach adopted has evolved since 3rd inventory and is based on a binary approach, combining an inclusive institutional system based on the national measurement, reporting and verification (MRV) system for data collection and experts for their analysis and report writing.

Under GHG Inventory, the MRV system has been leveraged to facilitate the collection, coordination and archiving of climate data that is based on IPCC recommendations. This measurement, reporting and verification system involves government, private, civil and research structures, as well as technical and financial partners in data collection via a digital platform. The data collected in the platform covers the AFAT, Energy, Waste and IPPU sectors, and is used by teams of experts to carry out the National GHG Inventory (IGES).

Under the guidance of the SDC, workshops, surveys and interviews were organized to clarify and complete the data, ensure its quality and standardize the units according to IPCC standards. Some data required extrapolations or adjustments, especially in Energy.

1.1.5. Archiving of documented information

Data and/or information collected from the holding institutions was processed and compiled by the sectoral expert groups, in accordance with the 2006 IPCC Guidelines.

The MRV/BF and ONEDD/BF digital platforms facilitated archiving of data sheets, sector reports, national circumstances report and national inventory report.

The data collected was centralized and archived in the form of collection sheets, sector reports, as well as the national GHG inventory report, allowing monitoring and information traceability. This information was subsequently entered into the MRV/BF and ONEDD/BF digital platforms housed in the Department of the National Observatory for Sustainable Development (ONDD) within the SP/CNDD. This facilitates data management, consultation and regular updating, while ensuring its security and accessibility.

1.1.6. Formal inventory review and approval process

1.1.6.1 Quality assurance / Quality control and Verification

Inventory Quality Control/Quality Assurance (QC/QA) was carried out according to good practices described in IPCC Guidelines for National Greenhouse Gas Inventories. This involved (i) providing systematic and consistent checks to ensure data integrity, accuracy and completeness; (ii) identifying and correcting errors and omissions; (iii) documenting and archiving inventory material. To this end, several workshops were organized to allow experts in charge of the inventory to produce

quality documents. QC/QA trainings were organized and the GHG inventory results were evaluated by independent third parties including experts from the UNFCCC Secretariat. The exercise resulted in recommendations that were implemented to improve the inventory quality. In addition, GHG Inventory also benefited from the review of experts from the United Nations Environment Programme (UNEP), the implementing agency of the "Burkina Faso First and Second Biennial Transparency Reports and Fourth National Communication project".

1.1.6.2 Approval process at national level

The formal inventory approval process was done at 2 levels. The Steering and Monitoring Committee, by virtue of its attributions, reviewed and validated the various development phases as well as GHG Inventory reports. At each development stage, he monitored, and gave his approval for the next step. This allowed for a review of process, collected data and produced reports. These reports were subsequently submitted for pre-validation and validation by all stakeholders at the national level to ensure information reliability and above all inclusion in the process.

1.2 Methodologies and measures used

The methodology used is mainly based on bibliographic research, surveys and interviews to collect the data necessary for the GHG inventory in Burkina Faso.

Documents analysed during bibliographic searches include previous reports, national statistical yearbooks, the IPCC Guidelines (2006), the EMEP/EEA Guide (2019), and international databases such as FAOSTAT and AGRISTAT. This research collected information on climate change, economic activities and forest/mapping inventories.

For data collection, Burkina Faso proceeded as follows:

- **Stakeholder Awareness** Four regional workshops were held to inform relevant institutions about their roles in data collection.
- **Enterprise Surveys** A sample of 115 large companies representing at least 80% of the turnover of their branch was studied. The information collected included production processes, energy consumption, and waste management.
- **Direct interviews**: Targeted visits to companies made it possible to validate and complete the data.
- Data was primarily collected from national sources. In case of unavailability, the information was obtained via international databases or extrapolation and interpolation techniques.

1.2.1 Quality assurance / Quality control (AQ/CQ) Plan

Quality control was ensured by verifying the collected data and its compliance with the IPCC guidelines. An independent evaluation by UNFCCC experts ensured compliance with international standards.

1.2.2 Evaluation of uncertainties

Uncertainties come from activity data and emission factors, often based on default values. The combined uncertainty of national emissions for 2022 is estimated at 50.3%, with specific categories showing high uncertainties, including indirect N_2O emissions (> 380%).

1.2.3. Completeness Information

- **Time coverage**

Inventories reported in this report cover the period from 1990-2022 with an annual step.

- **Geographical coverage**

The geographical scope covered by the inventories is the set made up of Burkina Faso 13 regions. In order to follow the IPCC guidelines and good practices on consistency of time series, the same geographical scope has been applied, since 1990, over the entire time series.

- **Inventoried substances**

The substances required by the UNFCCC and which are estimated in this document are:

- CO_2,
- CH_4,
- N_2O,
- HFC (HFC-32, HFC-125, HFC-134a, HFC-143a),
- Indirect greenhouse gases (SO_2, CO, NO_X et COVNM).

The following substances required by the UNFCCC are not presented in this document as they do not exist for Burkina Faso:

- PFC,
- NF_3,

SF_6 has been used nationally in the power generation process at some time, but has not been estimated due to lack of information on historical data.

- **Coverage of emitting sources**

All sinks and emission sources belonging to the IPCC nomenclature are inventoried. However, it is useful to recall that the following conventions have been retained:

- self-generation of electricity is counted in the producing sector such as industry, etc. (IPCC specification);
- domestic air traffic is included in the national total, while the share relating to international air traffic is reported separately according to the UNFCCC specifications.

According to the rules in force, CO_2 emissions from biomass are counted as follows:

- *for the so-called annual rotation biomass*: this is the organic matter produced and destroyed in the same year (e.g. maize, etc.);
- *for woody biomass (wood and derivatives)*: CO_2 emissions from this biomass are accounted for in category 4 of the CRF relating to LULUCF, forest harvesting part. Fuel use is recalled for the record in category 1 of the CRF relating to energy but excluded from the energy sector totals;
- *for waste*: CO_2 emissions of organic origin during waste treatment are not retained: only the inorganic part is retained, and CO_2 from sludge spreading, landfills, compost manufacturing and biogas production is excluded.

- **Missing sources (not estimated)**

In line with UN recommendations, once a source is defined in the 2006 IPCC Guidelines and a calculation methodology is provided, then the emission source must be estimated. In the event that such a source cannot be estimated, an "NE" notation is added and investigations are planned, as far as possible, as part of the continuous improvement. Some emission sources are clearly not estimated, so they appear as "NE" in the CRF tables. The reasons for not estimating emissions from these categories are mainly the lack of activity data or emission factors.

Burkina Faso's National Inventory Report provides much more detail on the methodology used to estimate GHG emissions, for each category, and for each gas. It provides detailed information on sources of activity data, emission factors, choice of methods and flexibilities used.

1.3 National Greenhouse gas emissions inventory Results

The national GHG emissions of this inventory result from a consolidation of each gas emissions obtained in the Energy, IPPU, Agriculture, Land Use, Land Use Change and Forestry (LULUCF) and Wastes.

The year 2022 is selected as the base year in accordance with decisions 1/CP. 16 and 2/CP. 17 and taking into account data availability according to national circumstances. This choice is aligned with paragraph 58 of Modalities, Procedures and Guidelines (MPG) under the transparency framework for action and support referred to in Article 13 of the Paris Agreement.

To express emissions in CO2 Equivalent, the following global warming potentials are used:

- $CO_2 = 1$
- $CH_4 = 28$
- $N_2O = 265$

1.3.1 Total evolution of greenhouse gas emissions

Emission results are presented in mass units (Gg) for emissions under the convention, then in CO_2 equivalent in accordance with MPG paragraphs 48 and 49.

1.3.1.1 Emissions under the Convention

Total national CO2 emissions in Burkina Faso in 1990 was 28123,92 Gg. That of CH_4 is 318.84 Gg and that of N_2O is 4.20 Gg. Indirect greenhouse gases were also emitted in the country in 1990. The country released 13.35 Gg NOx, 404.00 GG CO, 44.10 Gg NMVOC and 1.15 Gg SO_2. The emissions of these gases are shown in Table 2.

Table 2 : Table 1 of decision 17/CP.8 for 1990

Greenhouse gas source and sink categories	Net CO2 (Gg)	CH4 (Gg)	N2O (Gg)	CO Gg	NOx (Gg)	NMVOCs (Gg)	SOx (Gg)
Total National Emissions and Removals	28123,92	318,84	4,20	404,00	13,35	44,10	1,15
1 - Energy	689,07	17,86	0,31	365,25	11,97	39,50	1,15
1A - Fuel Combustion Activities	689,07	17,86	0,31	365,25	11,97	39,50	1,15
1A1 - Energy Industries	130,67	0,38	0,05	12,36	1,58	0,63	0,22
1A2 - Manufacturing Industries and Construction (ISIC)	23,04	0,02	0,00	1,45	0,13	0,04	0,02
1A3 - Transport	429,43	0,14	0,03	34,60	4,08	6,51	0,17
1A4 - Other Sectors	105,93	17,33	0,22	316,85	6,18	32,33	0,73
1A5 - Other	NO	NO	NO	NO	NO	NO	NO
1B - Fugitive Emissions from Fuels	NO	NO	NO	NO	NO	NO	NO
1B1 - Solid Fuels	NO	NO	NO	NO	NO	NO	NO
1B2 - Oil and Natural Gas	NO	NO	NO	NO	NO	NO	NO
2 - Industrial Processes	NE	NO	NO	NO	NO	4,597	NE
2A - Mineral Products	NE	NO	NO	NO	NO	NO	0
2B - Chemical Industry	NO	NO	NO	NO	NO	NO	0
2C - Metal Production	NE	NO	NO	NO	NO	NO	0
2D - Other Production	NO	NO	NO	NO	NO	4,597	0
2E - Production of Halocarbons and Sulphur Hexafluoride				NO	NO	NO	NO
2F - Consumption of Halocarbons and Sulphur Hexafluoride				NO	NO	NO	NO
2G - Other (please specify)	NE	NO	NO	NO	NO	NO	NO
3 - Solvent and Other Product Use	NE	NE	NE	NE	NE	NE	NE
4 - Agriculture	0	282,18	3,55	33,59	1,07	NO	NO
4A - Enteric Fermentation		264,44		NO	NO	NO	NO
4B - Manure Management		11,46	0,73	NO	NO	NO	NO
4C - Rice Cultivation		5,27		NO	NO	NO	NO
4D - Agricultural Soils		NO	2,77	NO	NO	NO	NO
4E - Prescribed Burning of Savannas	NO	0,17	0,02	4,84	0,29	NO	NO
4F - Field Burning of Agricultural Residues	NO	0,84	0,02	28,75	0,78	NO	NO
4G - Other (please specify)				NO	NO	NO	NO
5 - Land-Use Change & Forestry	27384,92	0,18	0,02	5,16	0,31	NO	NO
5A - Changes in Forest and Other Woody Biomass Stocks	27360,55			NO	NO	NO	NO
5B - Forest and Grassland Conversion	NE	NO	NO	NO	NO	NO	NO
5C - Abandonment of Managed Lands	2,03			NO	NO	NO	NO
5D - CO2 Emissions and Removals from Soil	NE			NO	NO	NO	NO
5E - Other (please specify)	NE	0,18	0,02	5,16	0,31	NO	NO
6 - Waste	49,93	18,61	0,33	NE	NE	NE	NE
6A - Solid Waste Disposal on Land		0,01		NE	NE	NE	NE
6B - Waste water Handling		17,81	0,32	NE	NE	NE	NE
6C - Waste Incineration	NO	NO	NO	NO	NO	NO	NO
6D - Other (please specify)	49,93	0,79	0,02	NE	NE	NE	NE
7 - Other (please specify)	NO	NO	NO	NO	NO	NO	NO
Memo Items							
International Bunkers	46,89	0,00	0,00	0,07	0,20	0,03	0,01
1A3a1 - International Aviation	46,89	0,00	0,00	0,07	0,20	0,03	0,01
1A3d1 - International Marine (Bunkers)	NO	NO	NO	NO	NO	NO	NO

Greenhouse gas source and sink categories	Net CO2 (Gg)	CH4 (Gg)	N2O (Gg)	CO Gg	NOx (Gg)	NMVOCs (Gg)	SOx (Gg)
Multilateral operations	NE	NE	NE				
CO2 emissions from biomass	8 175,96						

Source : MEEA/SP-CNDD/IGES,2024

In 1990, Burkina Faso could not estimate HFCs, due to non-availability of historical data.

Table 3 : Table 2 of decision 17/CP.8 for 1990

	HFC			PFC			SF6
Greenhouse gas source and sink categories	HFC-23 (Gg)	HFC-134 (Gg)	Other (Gg-CO2)	CF4 (Gg)	C2F6 (Gg)	Other (Gg-CO2)	SF6 (Gg)
Total National Emissions and Removals	NE	NE	NE	NO	NO	NO	NE
1 - Energy							
1A - Fuel Combustion Activities							
1A1 - Energy Industries							
1A2 - Manufacturing Industries and Construction (ISIC)							
1A3 - Transport							
1A4 - Other Sectors							
1A5 - Other							
1B - Fugitive Emissions from Fuels							
1B1 - Solid Fuels							
1B2 - Oil and Natural Gas							
2 - Industrial Processes	NE		NE	0	0	0	NE
2A - Mineral Products							
2B - Chemical Industry							
2C - Metal Production	0		0	0	0	0	0
2D - Other Production							
2E - Production of Halocarbons and Sulphur Hexafluoride	0		0	0	0	0	0
2F - Consumption of Halocarbons and Sulphur Hexafluoride	0		0	0	0	0	0
2G - Other (please specify)	0		0	0	0	0	0
3 - Solvent and Other Product Use							
4 - Agriculture							
4A - Enteric Fermentation							
4B - Manure Management							
4C - Rice Cultivation							
4D - Agricultural Soils							
4E - Prescribed Burning of Savannas							
4F - Field Burning of Agricultural Residues							
4G - Other (please specify)							
5 - Land-Use Change & Forestry							
5A - Changes in Forest and Other Woody Biomass Stocks							
5B - Forest and Grassland Conversion							
5C - Abandonment of Managed Lands							
5D - CO2 Emissions and Removals from Soil							
5E - Other (please specify)							
6 - Waste							
6A - Solid Waste Disposal on Land							

Greenhouse gas source and sink categories	HFC			PFC			SF6
	HFC-23 (Gg)	HFC-134 (Gg)	Other (Gg-CO2)	CF4 (Gg)	C2F6 (Gg)	Other (Gg-CO2)	SF6 (Gg)
6B - Waste water Handling							
6C - Waste Incineration							
6D - Other (please specify)							
7 - Other (please specify)							

Source: MEEA/SP-CNDD/IGES,2024

Total national CO2 emissions in Burkina Faso in 2022 was 50,805.64 Gg. That of CH_4 is 665.28 Gg and that of N_2O is 20.38 Gg. Indirect greenhouse gases were also emitted in the country. Indeed, the country released 1,442.58 Gg of Nox , 68.46 Gg of CO, 227.20 Gg of NMVOC and 5.89 Gg of SO_2. The emissions of these gases are shown in Table 4.

Table 4 : Table 1 of decision 17/CP.8 for referral year 2022

Greenhouse gas source and sink categories	Emissions (Gg)							
	CO_2	CH_4	N_2O	NOx	CO	NMVOCs	SO_2	Other HFC ($Gg-CO_2$)
Total National Emissions and Removals	50 805,64	665,28	20,38	1 442,58	68,46	227,20	5,89	1 205,64
1 - Energy	5 710,20	60,28	1,13	1 372,30	65,53	160,43	5,77	
1A - Fuel Combustion Activities	5 710,20	60,28	1,13	1 372,30	65,53	160,43	5,77	
1A1 - Energy Industries	572,15	1,31	0,18	42,97	6,60	2,25	0,85	
1A2 - Manufacturing Industries and Construction (ISIC)	731,72	0,05	0,01	1,58	2,18	0,09	0,56	
1A3 - Transport	3 708,66	1,10	0,22	267,99	35,49	50,51	1,64	
1A4 - Other Sectors	697,68	57,82	0,73	1 059,77	21,26	107,57	2,72	
1A5 - Other	NO	NO	NO	NO	NO	NO	NO	
1B - Fugitive Emissions from Fuels	NO	NO	NO	NO	NO	NO	NO	
1B1 - Solid Fuels	NO	NO	NO	NO	NO	NO	NO	
1B2 - Oil and Natural Gas	NO	NO	NO	NO	NO	NO	NO	
2 - Industrial Processes	167,05	NO	NO	NO	NO	11,41	0,06	1 205,64
2A - Mineral Products	68,42	NO	NO	NO	NO	NO	NO	
2B - Chemical Industry	NO	NO	NO	NO	NO	NO	NO	
2C - Metal Production	80,46	NO	NO	NO	NO	NO	0,06	
2D - Other Production	NO	NO	NO	NO	NO	11,41	NO	
2E - Production of Halocarbons and Sulphur Hexafluoride	NO	NO	NO	NO	NO	NO	NO	NO
2F - Consumption of Halocarbons and Sulphur Hexafluoride	NO	NO	NO	NO	NO	NO	NO	NO
2G - Other (please specify)	18,17	NO	NO	NO	NO	NO	NO	NO
3 - Solvent and Other Product Use	NE	NE	NE	NE	NE	NE	NE	
4 - Agriculture	0,00	562,80	18,86	41,13	1,25	NO	NO	
4A - Enteric Fermentation	NO	454,96	NO	NO	NO	NO	NO	

Greenhouse gas source and sink categories	Emissions (Gg)							
	CO_2	CH_4	N_2O	NOx	CO	NMVOCs	SO_2	Other HFC ($Gg-CO_2$)
4B - Manure Management	NO	50,19	8,81	NO	NO	NO	NO	
4C - Rice Cultivation	NO	56,41	0,00	NO	NO	NO	NO	
4D - Agricultural Soils	NO	NO	10,00	NO	NO	NO	NO	
4E - Prescribed Burning of Savannas	NO	0,15	0,01	4,17	0,25	NO	NO	
4F - Field Burning of Agricultural Residues	NO	1,08	0,03	36,95	1,00	NO	NO	
4G - Other (please specify)				NO	NO	NO	NO	
5 - Land-Use Change & Forestry	44 686,98	0,09	0,01	2,62	0,16	NO	NO	
5A - Changes in Forest and Other Woody Biomass Stocks	38 274,36			NO	NO	NO	NO	
5B - Forest and Grassland Conversion	29,14	NO	NO	NO	NO	NO	NO	
5C - Abandonment of Managed Lands	6 593,03	NO	NO	NO	NO	NO	NO	
5D - CO2 Emissions and Removals from Soil	NE	NO	NO	NO	NO	NO	NO	
5E - Other (please specify)	-264,98	0,09	0,01	2,62	0,16	NO	NO	
6 - Waste	241,40	42,11	0,38	26,53	1,51	55,37	0,05	
6A - Solid Waste Disposal on Land		0,50	NE	NO	NO	NO	NO	
6B - Waste water Handling		38,51	0,32	NO	0,00	54,78	NO	
6C - Waste Incineration	1,08	NO	NO	NO	0,00	0,01	0,00	
6D - Other (please specify)	240,32	3,10	0,06	26,53	1,51	0,58	0,05	
7 - Other (please specify)	NO	NO	NO	NO	NO	NO	NO	
Memo Items								
International Bunkers	93,23	0,00	0,00	0,13	0,39	0,07	0,01	
1A3a1 - International Aviation	93,23	0,00	0,00	0,13	0,39	0,07	0,01	
1A3d1 - International Marine (Bunkers)	NO	NO	NO	NO	NO	NO	NO	
Multilateral operations	NE	NE	NE					
CO2 emissions from biomass	28 192,69							

Source : MEEA/SP-CNDD/IGES,2024

Concerning HFCs, Burkina Faso emitted 1,205.64 Gg CO_2 equivalent in 2022. Table 5Shows the emissions of these types of gases.

Table 5 : Table 2 of decision 17/CP.8 for referral year 2022

Greenhouse gas source and sink categories	HFC			PFC			SF_6
	HFC-23 (Gg)	HFC-134 (Gg)	Other ($Gg-Eq-CO_2$)	CF4 (Gg)	C2F6 (Gg)	Other ($Gg-Eq-CO_2$)	SF_6 (Gg)
Total National Emissions and Removals	NE	NE	1 205,64	NO	NO	NO	NE
1 - Energy							

	HFC			PFC			SF_6
Greenhouse gas source and sink categories	HFC-23 (Gg)	HFC-134 (Gg)	Other (Gg-Eq-CO_2)	CF4 (Gg)	C2F6 (Gg)	Other (Gg-Eq-CO_2)	SF_6 (Gg)
1A - Fuel Combustion Activities							
1A1 - Energy Industries							
1A2 - Manufacturing Industries and Construction (ISIC)							
1A3 - Transport							
1A4 - Other Sectors							
1A5 - Other							
1B - Fugitive Emissions from Fuels							
1B1 - Solid Fuels							
1B2 - Oil and Natural Gas							
2 - Industrial Processes	NE		1 205,64	NO	NO	NO	NE
2A - Mineral Products							
2B - Chemical Industry							
2C - Metal Production	0		0	0	0	0	0
2D - Other Production							
2E - Production of Halocarbons and Sulphur Hexafluoride	0		0	0	0	0	0
2F - Consumption of Halocarbons and Sulphur Hexafluoride	0		1 205,64	0	0	0	0
2G - Other (please specify)	0		0	0	0	0	0
3 - Solvent and Other Product Use							
4 - Agriculture							
4A - Enteric Fermentation							
4B - Manure Management							
4C - Rice Cultivation							
4D - Agricultural Soils							
4E - Prescribed Burning of Savannas							
4F - Field Burning of Agricultural Residues							
4G - Other (please specify)							
5 - Land-Use Change & Forestry							
5A - Changes in Forest and Other Woody Biomass Stocks							
5B - Forest and Grassland Conversion							
5C - Abandonment of Managed Lands							
5D - CO_2 Emissions and Removals from Soil							
5E - Other (please specify)							
6 - Waste							
6A - Solid Waste Disposal on Land							
6B - Waste water Handling							
6C - Waste Incineration							
6D - Other (please specify)							

	HFC			PFC			SF_6
Greenhouse gas source and sink categories	HFC-23 (Gg)	HFC-134 (Gg)	Other (Gg-Eq-CO_2)	CF4 (Gg)	C2F6 (Gg)	Other (Gg-Eq-CO_2)	SF_6 (Gg)
7 - Other (please specify)							

Source: MEEA/SP-CNDD/IGES, 2024

1.3.1.2 Trends in national GHG emissions in CO_2 equivalent

For the purposes of the analysis, the emissions of all direct gases were expressed in CO_2 equivalent and cumulated for each time horizon considered.

According to the IPCC, "CO_2 equivalent emission is the amount of carbon dioxide (CO_2) emitted that would cause the same integrated radiative forcing, over a given time horizon, as an amount emitted from one or more greenhouse gases (GHGs). The CO_2 equivalent emission is obtained by multiplying the emission of a GHG by its global warming potential (GWP) for the time horizon considered.

1.3.1.2.1 Contribution of sectors to national GHG emissions

In Burkina Faso, the GHG emitting sectors in order of importance are land use, land-use change and forestry (LULUCF), agriculture, energy, waste and industrial processes.

In 1990, the main GHG emitting sectors were land use, land-use change and forestry (75.8%), agriculture (19.4%), energy (3.2%), waste (1.5%) and industrial processes with less than 0.0% of total emissions (Diagram 7).

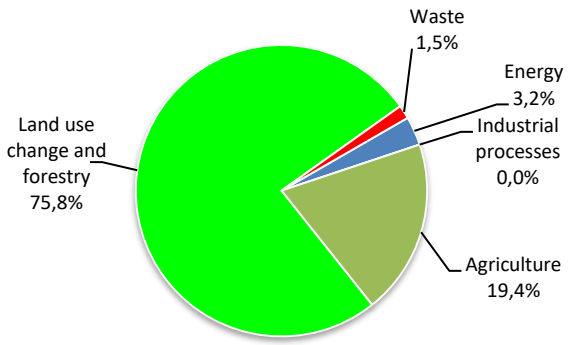


Diagram 7 : Distribution of GHG emissions by sectors in 1990

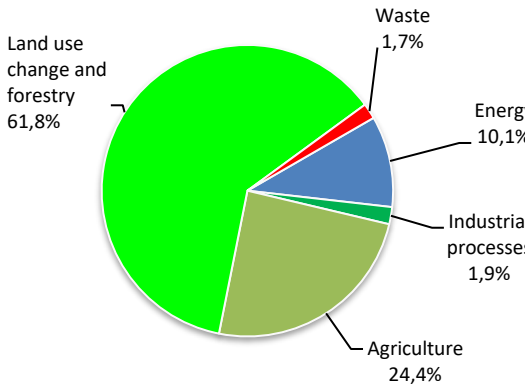


Diagram 8 : Distribution of GHG emissions by sectors in 2022

In 2022, the weight of LULUCF (61.8%) in total national GHG emissions decreased considerably. This decrease in the weight of the sector was made to the benefit of sectors of agriculture (24.4%),

energy (10.1%) and industrial processes (1.9%). Waste importance increased slightly (1.7%) (Diagram 8).

1.3.1.2.2 Analysis of GHG emission trends

Between 1990 and 2022, national GHG emissions have been on an upward trend (Diagram 9). GHG emissions increased from 36,122 Gg CO_2 eq in 1990 to 72,300.95 Gg CO_2 eq in 2022, an increase of 100.16%.

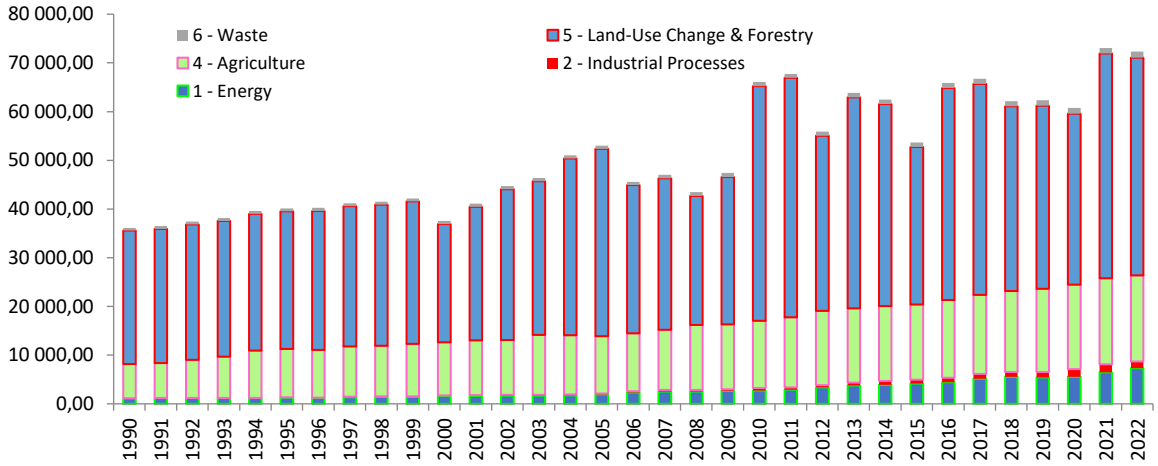


Diagram 9 : Evolution in national GHG emissions in CO_2 equivalent in Gg from 1990-2022

The increase in national emissions is largely caused by the increase in emissions from Land Use, Land Use Change and Forestry (LULUCF), whose contribution is 47.81%, that of agriculture is 29.40%, Energy accounts for 17.05%, that of Industrial Processes and Product Use (IPPU) is 3.79% and that of Waste 1.93%.

Table 6 : GHG emission in Gg Eq-CO_2

Sector	1990 Gg Eq-CO_2	2022 Gg Eq-CO_2	Progress (%)	Annual rate (%)	2050 Projection Gg Eq-CO_2
Energy	1 158,77	7 327,72	532,37	6,34	38 534,11
Industrial processes[1]	NO	1 372,70	3564,83	12,75	35 093,20
Agriculture	7 024,84	17 664,61	151,46	3,12	40 506,52
LULUCF	27 393,92	44 691,55	63,14	1,64	69 428,77
Wastes	544,54	1 244,38	128,52	2,79	2 618,06
Total	36 122,07	72 300,95	100,16	2,34	135 013,85

Note : [1] the base year for projections is 1995
Source : MEEA/SP-CNDD/IGES, 2024

Increases in emissions are due, among other to increased agricultural area, decreased forest land and increased livestock population.

Over the period 1990 to 2022, LULUCF contribution is at least 2/3 to national GHG emissions.

GHG emissions from the Land Use, Land Use Change and Forestry (LULUCF) sector increased from 27,393.92 Gg CO_2 eq in 1990 to 44,691.55 Gg CO_2 eq in 2022, an increase of 63.14%. If this trend continues, in 2050 this sector will emit 69,428.77 Gg Eq-CO_2.

For the agriculture sector, emissions increased from 7,024.84 Gg in 1990 to 17,664.61 Gg Eq-CO_2 in 2022, an annual increase of 151.46%. Agriculture will emit 40,506.52 Gg Eq-CO_2 in 2050 if this growth rate remains steady.

GHG emissions from the Land Use, Land Use Change and Forestry (LULUCF) sector increased from 1,158.77 Gg CO_2 eq in 1990 to 7,327.72 Gg CO_2 eq in 2022, an increase of 532.37%. If this trend continues, in 2050 this sector will emit 38,534.11 Gg Eq-CO_2.

In the waste, emissions have risen from 544.54 Gg Eq-CO_2 in 1990 to 1,244.38 Gg Eq-CO2 in 2022, representing a growth rate of 128.52%. At this rate, this sector will emit 2,618.06 Gg-Eq-CO_2 in 2050.

With regard to the Industrial Processes and Product Use (IPPU) sector, although GHG emissions are low, going from almost zero in 1995 to 1,372.70 Gg Eq-CO_2 in 2022, emissions from this sector are likely to be high in 2050 if appropriate measures are not taken.

In sum, we note that GHG emissions from all sectors have an upward trend and overall emissions almost doubled between 1990 and 2022. At this rate, this sector will emit 135,013.85 Gg Eq-CO_2 in 2050.

1.3.1.2.3 Contribution of major gases to GHG emissions

Co_2 accounts for the majority of GHGs emitted in 2022 (70.3%). This share decreased compared to that of 1990 (77.9%). CH_4 is the second GHG in terms of weight (19.3%) in 2022. This weight increased compared to that of 1990 which was 18.5%. The weight of N_2O also increased between 1990 and 2022 from 3.6% in 1990 to 8.7% in 2022. HFCs contribute less than 2% of GHGs in 2022 (Diagram 10 and Diagram 11).

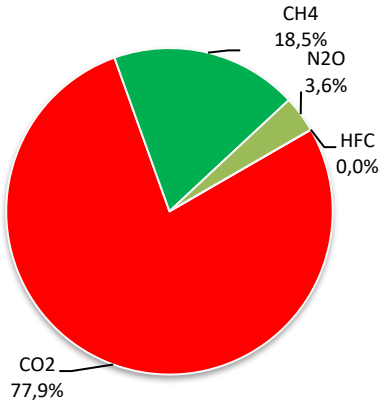


Diagram 10 : Contribution of gases to GHG emissions in 1990

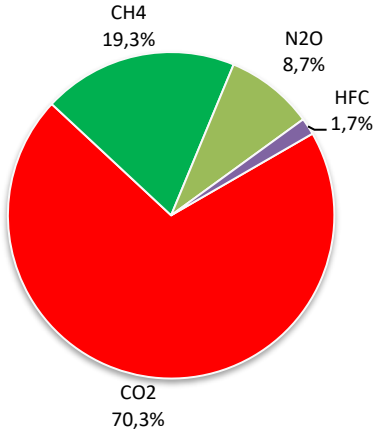


Diagram 11 : Contribution of gases to GHG emissions in 2022

1.3.1.3 Direct greenhouse gas emissions and removals

CO_2 emissions

Co_2 emissions are estimated as net emissions taking into account emissions and removals from the LULUCF.

- **Sector contribution CO_2 emissions**

Sectors emitting CO_2 are mainly LULUCF and Energy sectors. IPPU, Agriculture and wastes emit very small quantities of CO_2 (Diagram 12 and Diagram 13).

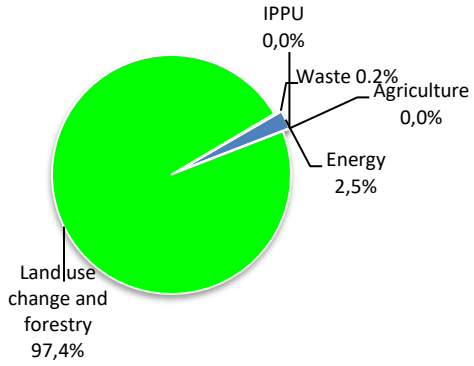


Diagram 12 : Distribution of CO_2 emissions by sectors in 1990

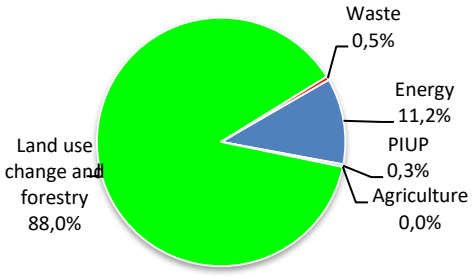


Diagram 13 : Distribution of CO_2 emissions by sectors in 2022

In 2022, the LULUCF's share of total CO_2 emissions decreased from 97.4% in 1990 to 88% in 2022. This reduction in weight was made to the benefit of Energy, whose contribution increased from 2.5% in 1990 to 11.2% in 2022.

- **Analysis of CO_2 emission trends**

In Burkina Faso, national CO_2 emissions increased over the period 1990-2022 ().Diagram 14 With an estimate of about 28,123.9 Gg in 1990, CO_2 emissions rose to over 50,805 Gg, an increase of 80.6%.

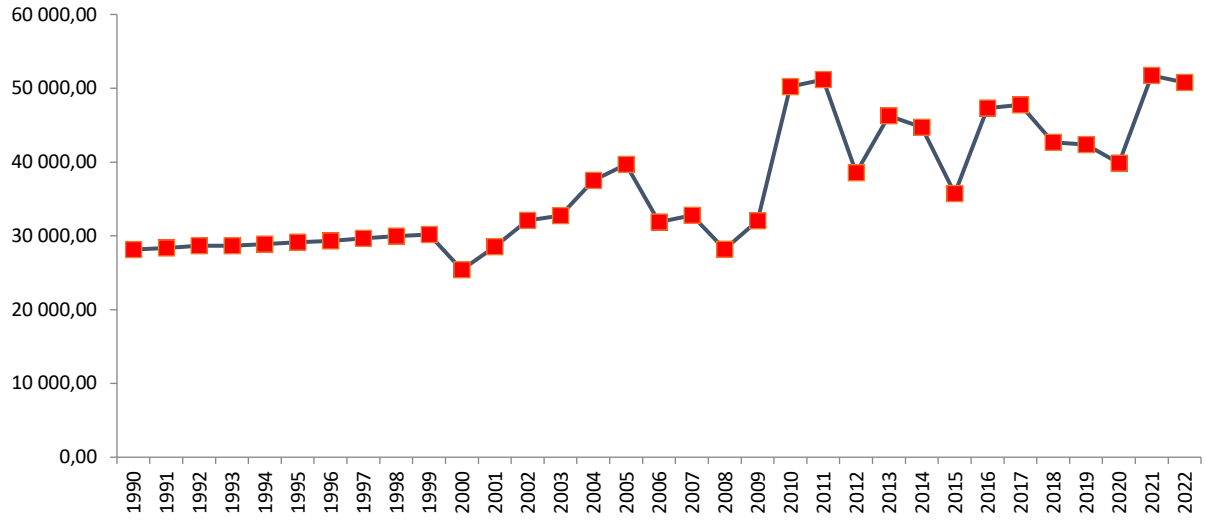


Diagram 14 : Evolution in national emissions in CO_2 equivalent in Gg from 1990-2022

This upward trend is related to :

- an increase in forest area converted into cultivated land ;
- a sharp increase in fossil fuel combustion activity.

Table 7 : CO_2 emissions in Gg

Sector	1990 Gg	2022 Gg Eq-CO_2	Progress (%)	Annuel rate (%)	2050 Projection Gg Eq-CO_2
Energy	689,07	5 710,20	728,68	7,30	38 300,09
IPPU[1]	NO	167,05	3899,22	13,08	4 619,94
Agriculture	0,00	0,00	-	-	-
LULUCF	27 384,92	44 686,98	63,18	1,65	69 435,84
Waste	49,93	241,40	383,45	5,39	996,89
Total	28 123,92	50 805,64	80,65	1,99	86 509,61

Note : [1] the base year for projections is 1995
Source : MEEA/SP-CNDD/IGES, 2024

LULUCF emissions increased from 27,384.92 Gg in 1990 to 44,686.98 Gg in 2022. If this trend continues, in 2050 this sector will emit 69,435.84 Gg Eq-CO_2.

CO_2 emissions from the Land Use, Land Use Change and Forestry (LULUCF) increased from 689 Gg CO_2 Eq in 1990 to 5,710.20 Gg CO_2 eq in 2022, an increase of 728.68%. If this trend continues, in 2050 this sector will emit 38,300 Gg Eq-CO_2.

For the IPPU sector, CO_2 emissions increase from 4.18 Gg in 1995 to 167.05 Gg in 2022.

In the waste, emissions have risen from 2 Gg Eq-CO_2 in 1990 to 49.93 Gg Eq-CO_2 in 2022, representing a growth rate of 383%. At this rate, this sector will emit 996.89 Gg-Eq-CO_2 in 2050.

In sum, we note that CO_2 emissions from all sectors have an upward trend and overall emissions increased by 1.99% yearly. At this rate, national CO_2 emissions reach 86,509.61 Gg Eq-CO_2 in 2050 (Table 7).

CH_4 emissions

Methane (CH_4) is a hydrocarbon and is the main component of natural gas. It is a powerful and abundant greenhouse gas (GHG), making it a substance that contributes significantly to climate change, especially in the short term.

Methane is the second largest greenhouse gas after carbon dioxide (CO_2). Notwithstanding its low emission to the atmosphere, the global warming potential of CH_4 remains higher than that of CO_2.

- **Sector contribution to CH_4 emissions**

Total methane emissions in 2022 were estimated at 665.28 Gg. This emission comes from Agriculture (84.6%), Energy (9.1%) Waste (6.3%) (Diagram 16)

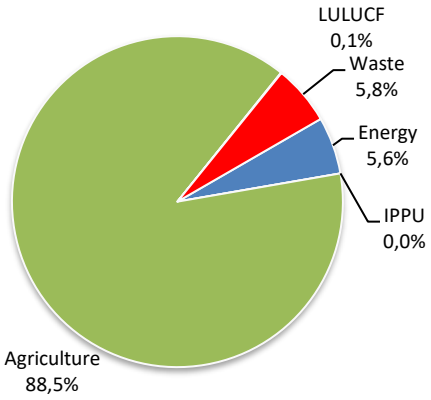


Diagram 15 : Distribution of CH_4 emissions by sectors in 1990

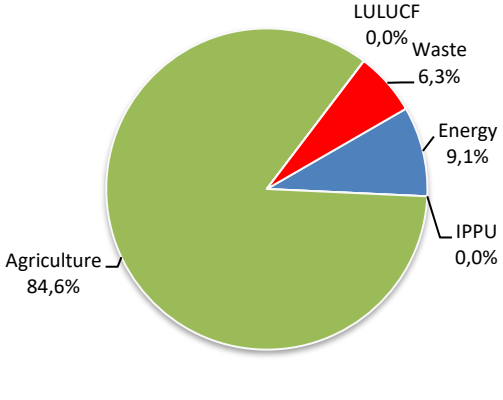


Diagram 16 : Distribution of CH_4 emissions by sectors in 2022

Methane emissions are largely released by Agriculture through enteric fermentation, biomass burning and manure management. Energy, industrial processes and LULUCFs emit virtually no methane.

Methane emissions from waste come mainly from waste water treatment and solid waste deposited on the ground.

- **Analysis of CH_4 emission trends**

National CH_4 emissions increased over the period 1990 to 2022. With an estimate of about 318.84 Gg in 1990, CH_4 emissions rose to over 50,805 Gg, an increase of 108.66% (Diagram 17).

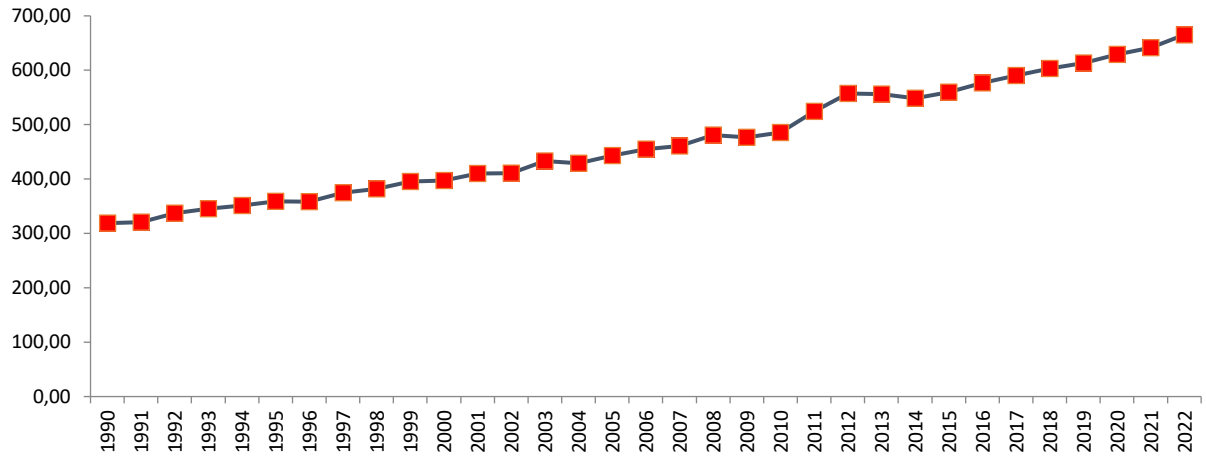


Diagram 17 : Evolution in national emissions in CH_4 equivalent in Gg from 1990-2022

The increase in national CH_4 emissions is due to increased emissions from agriculture, energy and wastes (Table 8). LULUCF emissions are declining.

Table 8 : CH_4 emission in Gg

Sector	1990 (Gg)	2022 (Gg)	Progress (%)	Annual rate (%)	2050 Projection (Gg)
Energy	17,86	60,28	237,46	4,14	180,14
IPPU	NO	NO	NO	NO	NO
Agriculture	282,18	562,80	99,44	2,33	1047,58
LULUCF	0,18	0,09	-49,28	-2,24	0,05
Waste	18,61	42,11	126,25	2,76	87,80
Total	318,84	665,28	108,66	2,48	1289,71

Note: NO = Not Occuring (Not Applicable)
Source: MEEA/SP-CNDD/IGES, 2024

Increases in CH_4 emissions are due, among others to the increase in livestock population and produced waste water quantities.

Over this inventory period, agriculture contribution to CH_4 emissions is at least 80%. CH_4 emissions from the Land Use, Land Use Change and Forestry (LULUCF) increased from 282.18 Gg CO_2 eq in 1990 to 562.80 Gg CO_2 eq in 2022, an increase of 99.44%. If this trend continues, in 2050 this sector will emit 1047.58 Gg Eq-CH_4.

In the agriculture sector, emissions increased from 17.86 Gg in 1990 to 60.28 Gg in 2022, an increase of 237.46%. Maintaining this trend in energy will result in the emission of 180.14 Gg of CH_4 in 2050.

In the waste, emissions have risen from 18.61 Gg Eq-CO_2 in 1990 to 42.11 Gg Eq-CO_2 in 2022, representing a growth rate of 126.25%. At this rate, this sector will emit 87.80 Gg-Eq-CH_4 in 2050.

In contrast, CH_4 emissions from the LULUCF fell from 0.18Gg in 1990 to 0.09 Gg in 2022, representing a reduction of 49.28%.

In sum, we note that CH_4 emissions from all sectors have an upward trend and overall emissions increased by 2.48% yearly. At this rate, national CH_4 emissions reach 1289 Gg Eq-CO_2 in 2050.

Emissions of N_2O (in Gg of N_2O)

N_2O in national emissions is the third largest in GHG emissions. This requires consideration of contribution of sectors to N_2O emissions, identification of key source categories and trend analysis. Its emission is measured in gigagrams (Gg), and has a higher global warming potential than CO_2 and CH_4.

- **Sector contribution to N_2O emissions**

As shown Diagram 19in 2022, the main sectors emitting N_2O are agriculture (92.5%), followed by Energy (5.6%) and Waste (1.9%) respectively.

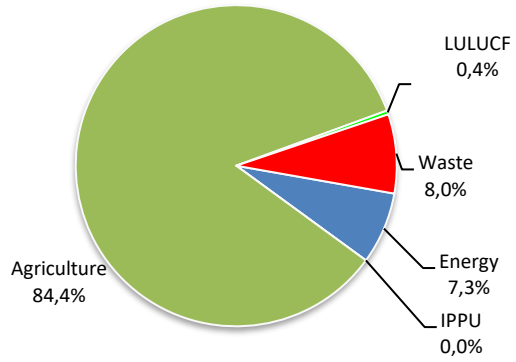


Diagram 18 : Distribution of N_2O emissions by sectors in 1990

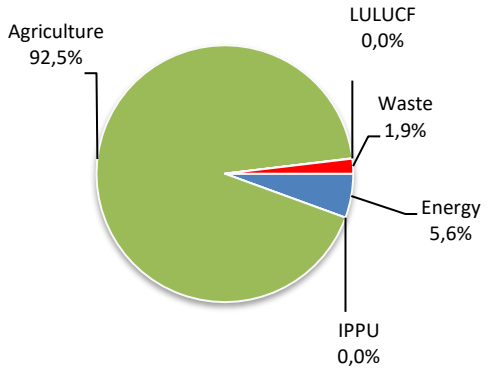


Diagram 19 : Distribution of N_2O emissions by sectors in 2022

- **Analysis of N_2O emission trends**

In Burkina Faso, national N_2O emissions increased over the period 1990-2022 ().Diagram 16 Emissions increase from 4.2 Gg in 1990 to 20.38 Gg in 2022, an increase of 385.14% (Table 9).

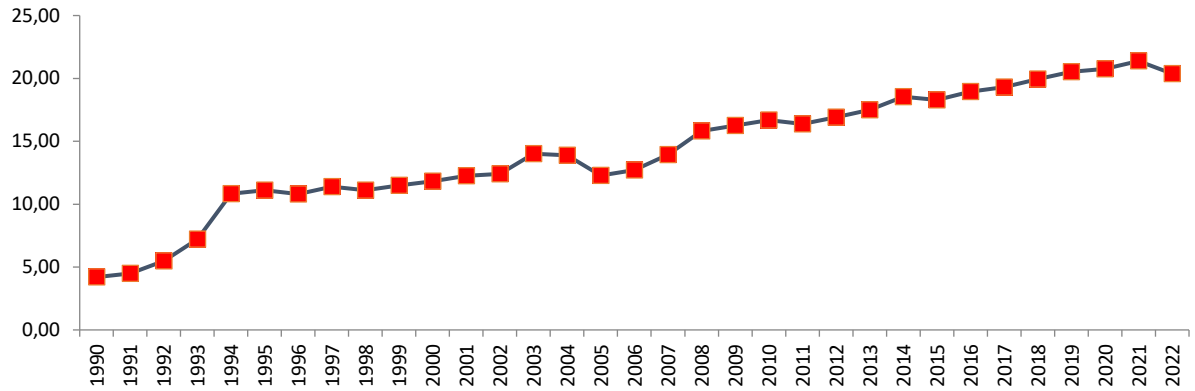


Diagram 20 : Evolution in national emissions in CH 2 equivalent in Gg from 1990-2022.

The increase in national emissions of N_2O is caused by the increase in emissions from agriculture (whose contribution to growth is 94.6%), energy (5.1%) and waste (0.3%).

Table 9 : National emissions of N_2O in Gg

Sector	1990 (Gg)	2022 (Gg)	Progress (%)	Annual rate (%)	2050 projection (Gg)
Energy	0,31	1,13	271,82	4,47	3,70
IPPU	NO	NA	-	-	-
Agriculture	3,55	18,86	431,93	5,73%	84,87
LULUCF	0,02	0,01	-49,28	-2,24%	0,00
Waste	0,33	0,38	14,37	0,45%	0,43
Total	4,20	20,38	385,14	5,41%	84,44

Note: NO= Not Occuring (Non Applicable), NE = Not Estimated
Source: MEEA/SP-CNDD/IGES, 2024

Increases in N_2O emissions are due, among others to the increasing application of mineral fertilizers and organic manure.

N_2O emissions from agriculture increased from 3.55 Gg CO_2 eq in 1990 to 18.86 Gg CO_2 eq in 2022, an increase of 431.93%. If this trend continues, in 2050 this sector will emit 84.87 Gg Eq-N_2O.

In sum, we note that N_2O emissions from all sectors have an upward trend and overall emissions increased by 5.41% yearly. At this rate, national N_2O emissions could reach 84.44 Gg Eq-CO_2 in 2050.

HFC emissions

HFCs are emitted exclusively by the IPPU sector. They are the fourth largest gas and contribute 1.7% of total GHG emissions. HFC emissions are analyzed in the section on emissions from IPPU. Nationally, industrial processes produced 1,205.64 Gg EQ-CO_2 in 2022.

1.3.1.4 Indirect greenhouse gas emissions

The indirect gases estimated are NOx, CO, NMVOC and SOx.

CO emissions

Sectors emitting CO are mainly Energy, Agriculture, LULUCF and Wastes. IPPU sector does not emit CO.

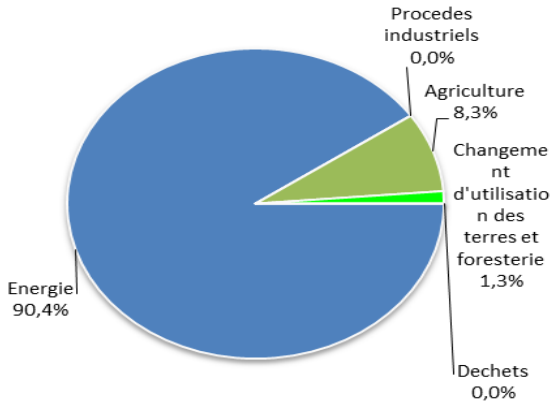


Diagram 21 : Distribution of CO emissions by sectors in 1990

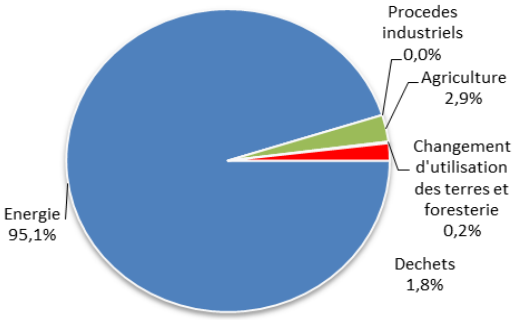


Diagram 22 : Distribution of CO emissions by sectors in 2022

In 2022, energy share of total CO emissions increased from 90.4% in 1990 to 95.1% in 2022. This increase in weight was made to the benefit of Agriculture, whose contribution increased from 8.3% in 1990 to 2.9% in 2022 (Diagram 21 and Diagram 22).

Table 10 : National Emissions of CO in Gg

Sector	1990 (Gg)	2022 (Gg)	Progress (%)	Annual rate (%)	2050 Projection (Gg)
Energy	365,25	1372,30	275,71	4,51	4516,68
IPPU	NO	NO	-	-	-
Agriculture	33,59	41,13	22,45	0,68	49,35
LULUCF	5,16	2,62	-49,28	-2,24	1,42
Waste[1]	NO	26,53	-	4,53	37,82
Total	404,00	1442,58	257,07	4,33	4535,45

Note: NO= Not Occuring (Not Applicable); [1]: the base year for projections is 2015
Source: MEEA/SP-CNDD/IGES, 2024

CO emissions from Energy increased from 365.25 Gg in 1990 to 1,372.30 Gg in 2022, an increase of 275.71%. If this trend continues, in 2050 this sector will emit 4516.68 Gg Eq-CO_2.

CO emissions from the Land Use, Land Use Change and Forestry (LULUCF) increased from 5.16 Gg CO Eq in 1990 to 2.62 Gg CO Eq in 2022, a decrease of 49.28%. If this trend continues, in 2050 this sector will emit 1.42 Gg Eq-CO.

Although CO emissions from waste have been zero since 1990, from 2015 onwards waste began to emit CO. This is due to the construction of Waste sludge and waste water management infrastructure. In 2022, waste emitted 26.53 Gg of CO.

National CO emissions have an overall upward trend between 1990 and 2022. At this rate, national CO emissions could reach 4535.45 Gg Eq-CO in 2050.

NOx emissions

Sectors emitting NOx are mainly Energy, Agriculture, and LULUCFs (Diagram 23 and Diagram 24). IPPU sector does not emit NOx (Table 11).

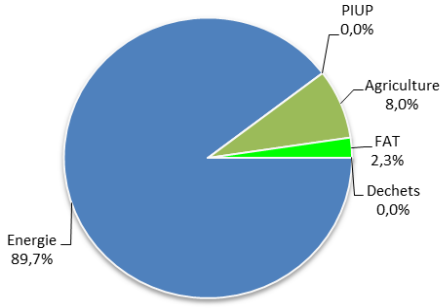


Diagram 23 : Distribution of NOx emissions by sectors in 1990

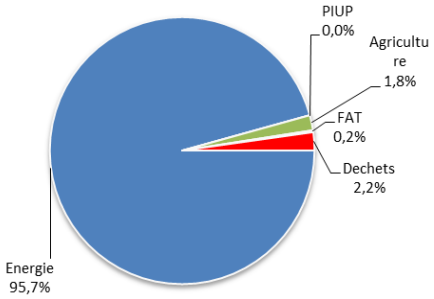


Diagram 24 : Distribution of NOx emissions by sectors in 2022

NOx emissions from Energy increased from 11.97 Gg in 1990 to 65.53 Gg in 2022, an increase of 447.53%. If this trend continues, in 2050 this sector will emit 302 Gg Eq-NOx.

NOx emissions from the Land Use, Land Use Change and Forestry (LULUCF) increased from 0.31 Gg CO Eq in 1990 to 0.16 Gg CO Eq in 2022, a decrease of 49.28%. If this trend continues, in 2050 this sector will emit 0.09 Gg Eq-NOx.

Although NOx emissions from waste have been zero since 1990, from 2015 onwards waste began to emit NOx. In 2022, waste emitted 1.51 Gg of NOx.

National NOx emissions have an overall upward trend between 1990 and 2022 and increased to 5.60% yearly. At this rate, national NOx emissions could reach 298.10 Gg Eq-CO in 2050.

Table 11 : National NOx emissions in Gg

Sector	1990 (Gg)	2022 (Gg)	Progress (%)	Annual rate (%)	2050 projection (Gg)
Energy	11,97	65,53	447,53	5,83	302,72
IPPU	NO	NO	-	-	-
Agriculture	1,07	1,25	17,09	0,53	1,45
LULUCF	0,31	0,16	-49,28	-2,24	0,09
Waste	NO	1,51	-92,23	-30,58	0,08

Total	**13,35**	**68,46**	**412,78**	**5,60**	**298,10**

Note: NO=Not Occuring (Not Applicable); [1] : the base year for projections is 2015
Source: MEEA/SP-CNDD/IGES, 2024

NMVOC emissions

Sectors emitting NMVOC are mainly Energy, IPPU and Wastes. Agriculture and LULUCF do not emit NMVOC (Diagram 25 and Diagram 26)

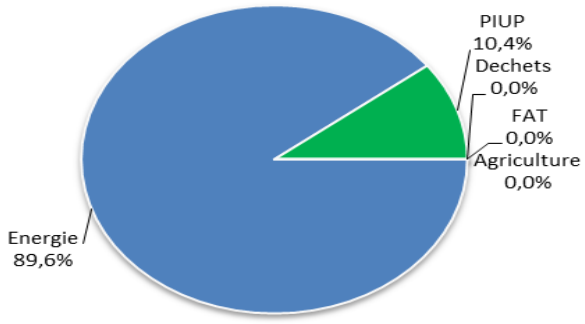


Diagram 25 : Distribution of NMVOC emissions by sectors in 1990

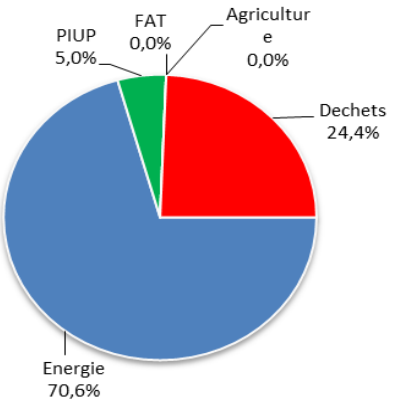


Diagram 26 : Distribution of NMVOC emissions by sectors in 2022

In 2022, Energy share of total NMVOC emissions increased from 89.6% in 1990 to 70.6% in 2022. This decline in weight was to the detriment of the Waste, whose contribution increased from 0% in 1990 to 24.4% in 2022.

Table 12 : National emissions of NMVOC in Gg

Sector	1990 (Gg)	2022 (Gg)	Progress (%)	Annual rate (%)	2050 Projection (Gg)
Energy	39,50	160,43	306,10	4,78	566,30
IPPU	4,60	11,41	148,10	3,08	25,84
Agriculture	NO	NO	-	-	-
LULUCF	NO	NO	-	-	-
Waste	NO	55,37	-	64,09	401,36
Total	**44,10**	**227,20**	**415,18**	**5,62**	**993,50**

Note : NO=Not Occuring (Not Applicable) ; [1] : the base year for projections is 2018
Source: MEEA/SP-CNDD/IGES, 2024

NMVOC emissions from Energy increased from 39.50 Gg in 1990 to 160.43 Gg in 2022, an increase of 306.10%. If this trend continues, in 2050 this sector will emit 566.30 Gg Eq-NMVOC.

NMVOC emissions from IPPU increased from 4.60 Gg CO Eq in 1990 to 11.41 Gg CO Eq in 2022, an increase of 148.10%. If this trend continues, in 2050 this sector will emit 25.84 Gg Eq-NMVOC. Taking into account solvent use, NMVOC emissions from IPPU would have been 37.9 Gg in 2022.

Although NMVOC emissions from waste have been zero since 1990, from 2018 onwards waste began to emit NMVOC. In 2022, waste emitted 55.37 Gg of NMVOC.

National NMVOC emissions have an overall upward trend between 1990 and 2022. At this rate, national NMVOC emissions would reach 993.50 Gg Eq-CO in 2050.

- **SOx emissions**

In 1990, waste alone emitted SOx. In 2022, the IPPU and waste began to emit SOx due to installation of new industrial units (Table 13).

Table 13 : SOx emissions

Sector	1990	2022	Progress (%)	Annual rate (%)	2050 Projection
Energy	1,15	5,77	403,31	5,53	24,72
IPPU	NO	0,06	-	-	-
Agriculture	NA	NA	-	-	-
FAT	NA	NA	-	-	-
Déchets	NO	0,05	-	-	-
Total	**1,15**	**5,89**	**413,38**	**5,60**	**25,67**

Note: NO=Not Occuring (Not Applicable); NE= Not estimated
Source: MEEA/SP-CNDD/IGES, 2024

National SOx emissions have an overall upward trend between 1990 and 2022 and could reach 25.67 Gg in 2050.

1.3.2 Evolution of greenhouse gas emissions by sector

1.3.2.1 Emissions in Energy

GHG emitting sources from energy sector are transportation, electricity generation, residences, businesses and institutions, industries and agriculture, forestry, fishery.

The emission estimate for the year 2022 in Energy covers direct emissions (CO_2, CH_4, N_2O) and indirect emissions (CO, NOx, NMVOC, and SO_2).
Total GHG emissions in 2022 in energy expressed in gigagram (Gg) are as follows:
Direct Gas emissions:

- CO_2 emissions: 5,710.205 Gg;
- CH_4 emissions: 60.283 Gg;
- N_2O emissions : 1.134 Gg

Indirect Gas emissions:

- CO emissions: 1,372.300 Gg;
- NOx emissions 65.536 Gg;
- NMVOC emissions: 160.425 Gg;
- SO_2 emissions: 5.775 Gg

GHG emissions in CO_2 equivalent in Energy

Carbon dioxide (CO_2), methane (CH_4) and nitrous oxide (N_2O) are the only greenhouse gases emitted by energy.

- **Contribution of categories to GHG emissions in Energy**

In 1990, the main GHG emitting categories were residences (40.9 %), transport [land (37.6%), rail (1.3 %), domestic aviation (0.1%)], electricity generation (11.5 %), industry (2.2 %) and commerce and institutions (6.4 %).

Diagram 27 and Diagram 28 represent contributions of categories to GHG emissions in energy.

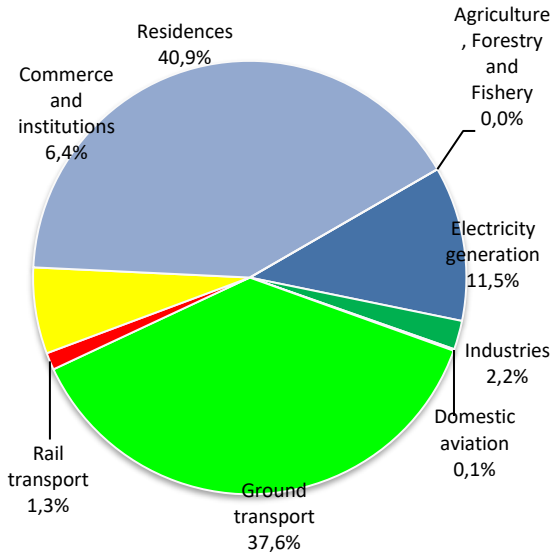


Diagram 27 : Distribution of GHG emissions by category in 1990 in Energy

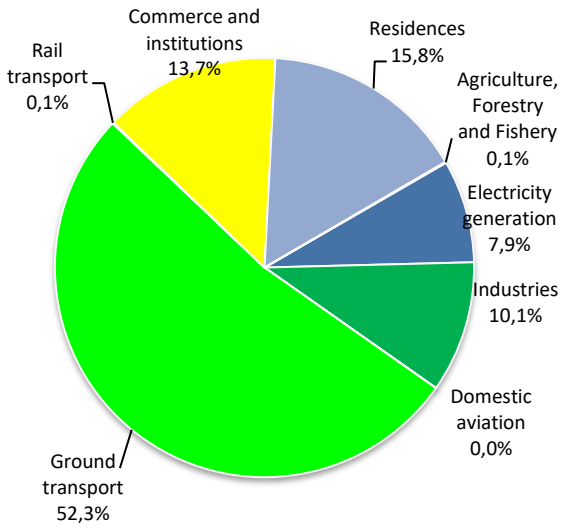


Diagram 28 : Distribution of GHG emissions by category in 2022 in Energy

In 2022, the transport category, with 52.3 % of total GHG emissions in energy, is the one that emits the most. It is the subcategory of land transport that explains this increase compared to 1990, although the weights of the subcategories rail transport (0.1 %) and domestic aviation (0.0 %) are down compared to those of 1990.

Residences (15.8%) are the second largest contributor to GHG emissions in energy after transportation in 2022. This share decreased compared to that of 1990 (40.9%). The contribution of the electricity generation category (7.9%) decreased compared to 1990 (11.5%). On the other hand, the contribution of the commercial and institutional category is growing.

The contribution of the industry category (10.1 %) in 2022 is up from that of 1990 (2.2%).

- **Contribution of categories to GHG emissions in Energy**

Between 1990 and 2022, national GHG emissions have been on an upward trend (Diagram 29). Indeed, emissions increased from 1,064.51 Gg in 1990 to nearly 7,125.16 Gg in 2022, an increase

of 569.3%. The increase in emissions from energy is largely due to the increase in emissions from the transportation category.

Over the period, emissions from the transportation category accounted for more than 2/5 of total emissions from energy. One of the reasons for this increase is the increase in the vehicle fleet and the fleet of two (2) wheels, as well as the aging of machines. Emissions in this category increased almost 8-fold, from 426.51 Gg in 1990 to 3,792.95 Gg in 2022 (Table 14).

Table 14 : Contribution to GHG emissions in Energy

Category	1990 Gg Eq-CO_2	2022 Gg Eq-CO_2	Progress (%)	Annual rate (%)	2050 Projection Gg Eq-CO_2
Electricity generation	131,09	574,90	338,5%	5,1%	2174,69
Industries	24,47	735,50	2905,8%	12,0%	15730,92
Domestic aviation	1,36	0,84	-38,4%	-1,6%	0,54
Ground Transport	426,51	3792,95	789,3%	7,6%	27109,41
Rail Transport	14,56	6,43	-55,8%	-2,7%	3,08
Institutions and Commerces	73,05	989,64	1254,8%	9,1%	10331,24
Residences	464,67	1142,21	145,8%	3,0%	2566,21
Agriculture, forestry and Fishery	0,00	5,77	-	-	-
Total	1 158,77	7 327,72	532,4%	6,3%	38 534,11

Source: MEEA/SP-CNDD/IGES, 2024

For the categories of electricity generation (338%) and manufacturing and construction industries (2,906%), commerce and institutions (1,255%), their emissions also increased over the same period.

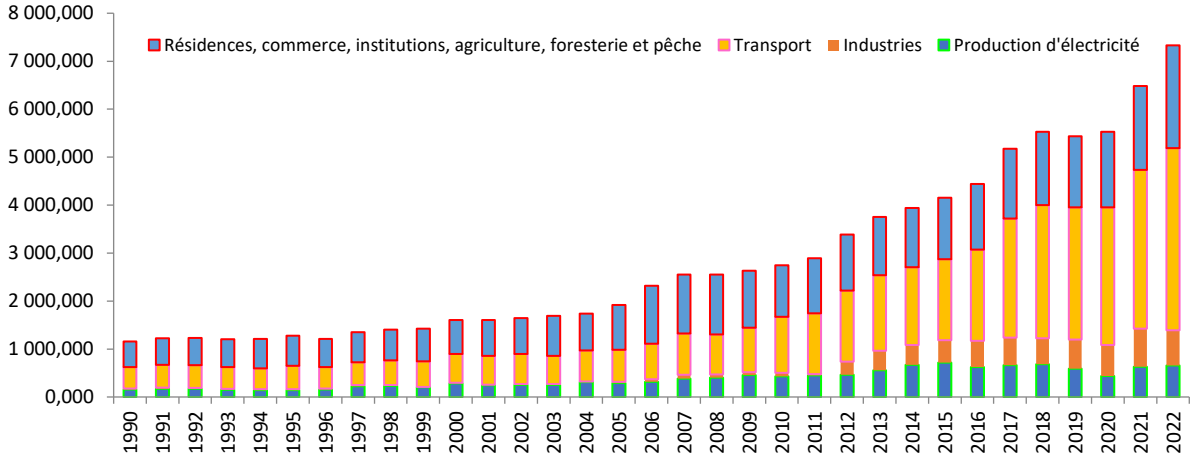


Diagram 29 : Evolution in national emissions in GHG equivalent in Gg from 1990-2022 in Energy

GHG emissions from the electricity generation category, while low compared to those from the transportation category, also increased by more than 3 times, from 131.09 Gg Eq-CO_2 in 1990 to 574.90 Gg Eq-CO_2 in 2022.

GHG emissions from commerce and institution sector increased from 73.05 Gg CO_2 Eq in 1990 to 989.64 Gg CO_2 Eq in 2022, an increase of 1,255%.

For the industry category, although emissions remain relatively low (735.50 Gg Eq-CO_2 in 2022), they are up to 2,906% compared to 1990 (24.47 Gg Eq-CO_2).
Ultimately, GHG emissions from most categories of energy are on an upward trend and overall, emissions increased fivefold between 1990 and 2022.

If the observed trend is maintained, in 2050 energy will emit approximately 38,534.11 Gg Eq-CO_2 of GHGs.

CO_2 emissions in Energy

CO_2 emissions from energy were assessed using two (2) approaches: baseline approach and sector approach.

- **Contribution of categories to GHG emissions in Energy**

In 1990, the main CO2 emitting categories were transport [Land (60.2%), Rail (1.9%), domestic aviation (<1%)], electricity production (19.0%), businesses and institutions (9.0%), residences (6.4%), and industry (3.3%) (Diagram 30 and Diagram 31).

The 1990 Agriculture, Forestry and Fisheries CO_2 emissions are zero.

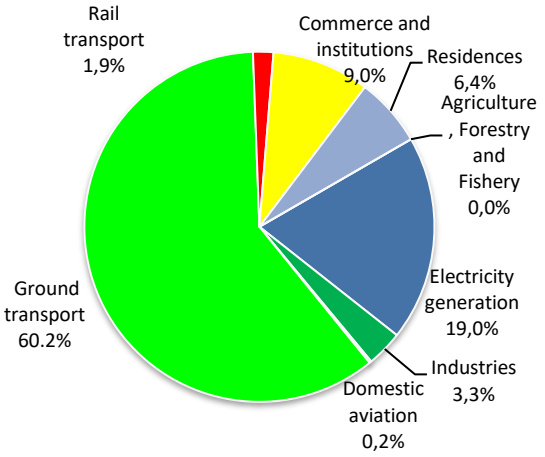


Diagram 30 : Distribution of GHG emissions by category in 1990 in Energy

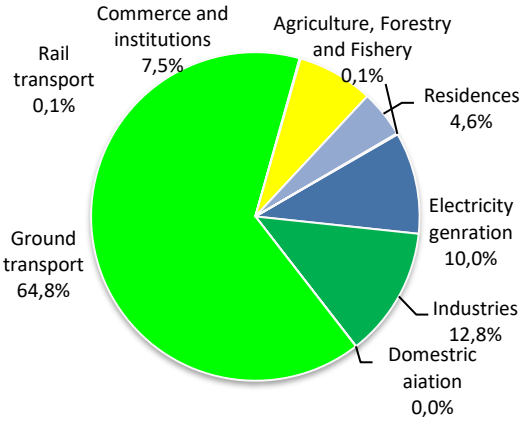


Diagram 31 : Distribution of GHG emissions by category in 2022 in Energy

In 2022, transport category share (64.9%) in total CO_2 emissions in energy increased slightly, mainly due to increased weight of road transport.

Industry (12.8%) is the second largest contributor to CO_2 emissions in energy after transportation in 2022. This contribution increased compared to estimation of 1990 (3.3%).

On the other hand, electricity production, which contributed to 19.0% of CO_2 emissions in 1990, contributed only 10.0% of CO_2 emissions in 2022.

➢ Analysis of CO_2 emission trends in Energy

In Burkina Faso, Energy CO_2 emissions increased over the period 1990-2022. With an estimate of about 689.07 Gg in 1990, CO_2 emissions rose to nearly 5,710.20 Gg, an increase of 728.7%. This upward trend is linked to a sharp increase in fossil fuel combustion activity (Diagram 32).
In 2022, CO_2 emissions from the transportation category accounted for 2/3 of total emissions from energy. Emissions in this category increased nearly 8-fold, from 415.10 Gg in 1990 to 3,702.09 Gg in 2022. (Table 15).

Table 15 : CO_2 emission trends in Energy

Category	1990 (Gg)	2022 (Gg)	Progress (%)	Annual rate (%)	2050 Projection (Gg)
Electricity generation	130,67	572,15	337,9%	5,0%	2 161,33
Industries	23,04	731,72	3 075,5%	12,2%	16 442,81
Domestic Aviation	1,35	0,83	-38,4%	-1,6%	0,54
Ground transport	415,10	3 702,09	791,9%	7,6%	26 528,66
Rail transport	12,99	5,74	-55,8%	-2,7%	2,75
Commerces and institutions	62,08	427,41	588,5%	6,6%	2 426,25
Residences	43,85	264,54	503,2%	6,2%	1 333,31
Agriculture, forestry and Fishery	0,00	5,74	-	-	-
Total	689,07	5 710,20	728,7%	7,3%	38 300,09

Source: MEEA/SP-CNDD/IGES, 2024

For electricity generation categories and manufacturing and construction industries, commerce and institutions, residences and agriculture their CO_2 emissions also increased over the same period.

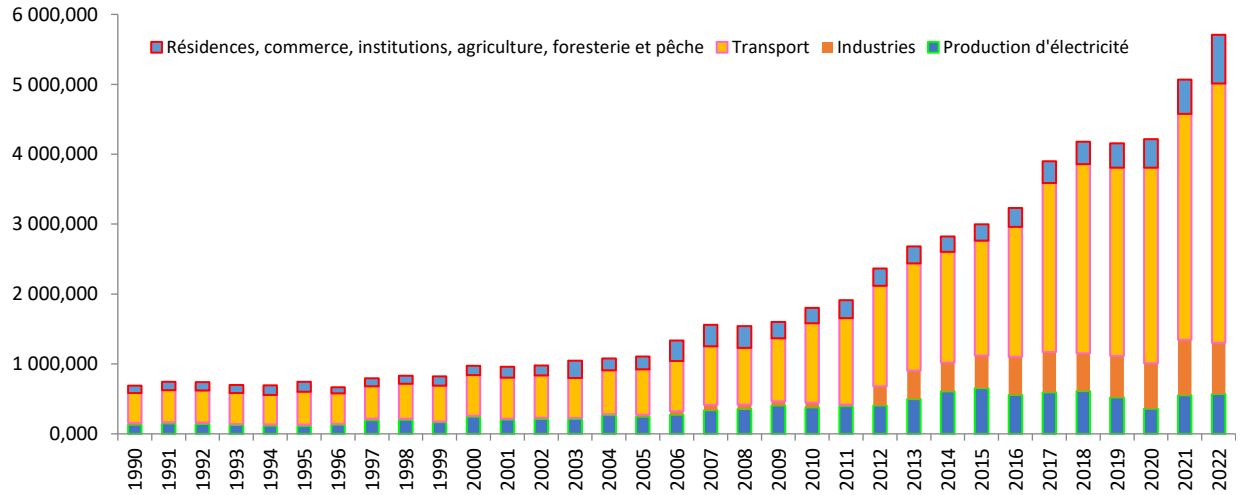


Diagram 32 : Evolution of CO_2 emissions from categories in energy from 1990 to 2022 in Gg.

Co_2 emissions from the industry category, although low compared to those from transportation category, also increased significantly, from 23.04 Gg in 1990 to 731.72 Gg in 2022, an increase of 12.2% each year.

As for electricity production category, although the level of emissions remains moderate (572.15 Gg in 2022), they rise to 337.9% compared to 1990 (130.67 Gg).

As for CO_2 emissions from residential category, they increased from 43.85 Gg in 1990 to 264.54 Gg in 2022, an increase of 503.2%.

It can therefore be noted that CO_2 emissions from all energy categories, with the exception of domestic aviation and rail transport, are on an upward trend and broadly follow the same trend as GHG emissions between 1990 and 2022.

If emissions continue at the same rate, in 2050 energy will emit around 38,300.09 Gg of CO_2.

- **Comparison of CO_2 emissions using the reference and sectoral approaches**

Le Good practice Guidance recommends applying both a sectoral and reference approach to estimate CO_2 emissions from fuel combustion and comparing the results of these two independent estimates.

In contrast to bottom-up sectoral approach, the reference approach is a top-down approach that uses the country's energy supply data to calculate CO_2 emissions mainly from fossil fuel combustion. It is therefore based on statistics on production and export (firewood and charcoal) and imports of hydrocarbons. Burkina Faso does not produce hydrocarbons.

For constraints on data unavailability on changes in their fuel stocks for certain years, they are considered zero for those years. Thus, imported fuels in these years are assumed to be fully consumed.

The reference approach methodology estimates carbon dioxide emissions from fuel combustion in five steps:

Step 1: Estimation of apparent fuel consumption in original units;
Step 2: Conversion to a common energy unit;
Step 3: Multiply by carbon content to calculate total carbon
Step 4: Calculation of excluded carbon;
Step 5: Correction for unoxidized carbon and conversion to CO_2 emissions.

Amount of carbon that is not a source of combustion-related emissions is excluded from total carbon when statistics are available. This is the case with lubricants, a major part of which is used in industrial processes. However, although there is use of kerosene or gasoline as a paint thinner or detergent to clean engines, data is not available. All quantities of these imported products are considered to be used for combustion.

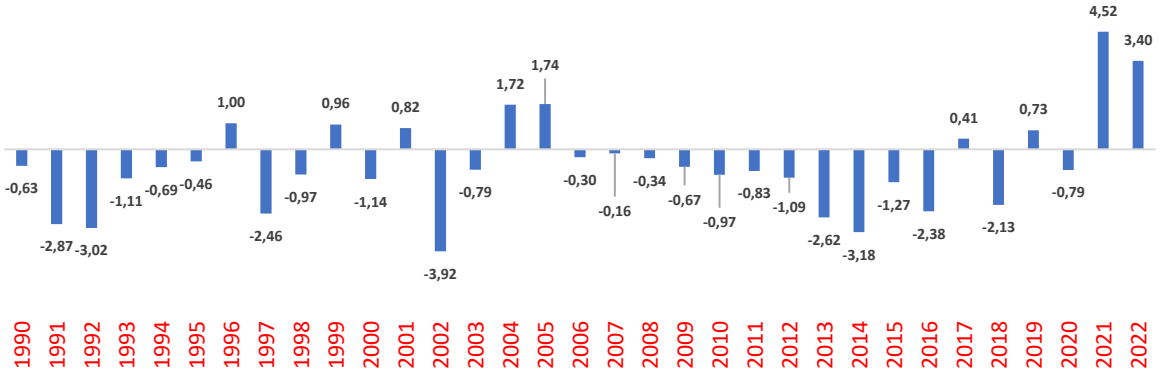


Diagram 33 : Differences between CO_2 emissions according to reference approach and sectoral approach (in %).

Comparison of emissions between sectoral approach and reference approach reveals varying differences between -3.92% and 4.52%.

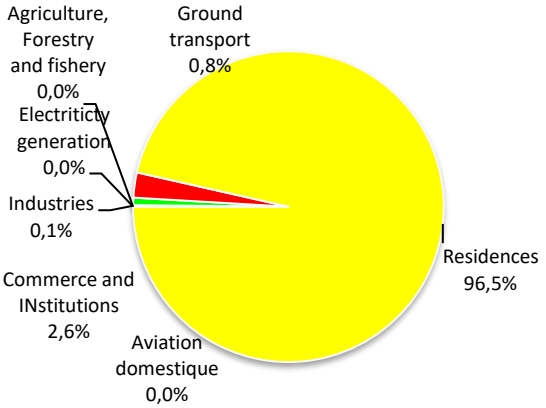
CH_4 emissions in Energy

Methane is the second largest greenhouse gas after carbon dioxide (CO_2).

- **Contribution of categories to CH_4 emissions in Energy**

Total methane emissions in 1990 were estimated at 17.86 Gg. This emission stems from transportation, power generation, industry, commerce and institutions, residences and agriculture-agroforestry-fishery sub-sectors.

In 1990, approximately 96.5% of estimated methane emissions were from residences. Indeed, methane emissions are largely released by residences through combustion of wood, charcoal and biogas. Businesses and institutions contributed 2.6% of CH_4 emissions in 1990. Emissions from the transportation, industry, power generation, and agriculture, forestry and fisheries categories are low.



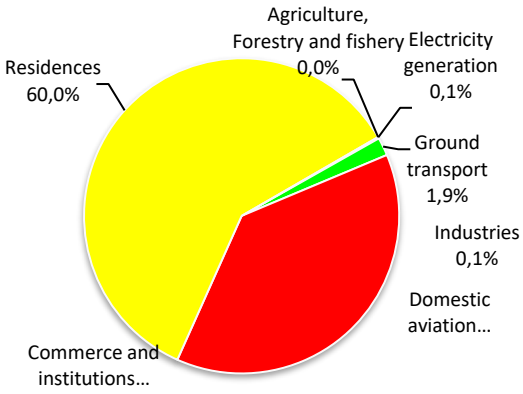


Diagram 34 : Distribution of CH_4 emissions by category in 2022 in Energy

Diagram 35 : Distribution of CH_4 emissions by category in 2022 in Energy

Residence category emitted 60.0 % of CH_4 in 2022. Compared to 1990, this contribution has decreased. This slight decrease is explained by the decrease in consumption of wood, charcoal and kerosene by households in urban areas. Wood and charcoal are gradually replaced by butane gas.

Businesses and institutions category emitted 38.0 % of CH_4 in 2022. Compared to 1990, this contribution has decreased significantly.

Electricity generation (0.1%), industry (0.1%), transport (1.9%), agriculture, forestry and fisheries categories contribute little to emissions.

- **Analysis of CH_4 emission trends in Energy**

In Burkina Faso, Energy CH_4 emissions increased over the period 1990-2022. With an estimate of about 17.86 Gg in 1990, CH_4 emissions rose to nearly 60.28 Gg, an increase of 237.5%.

For CH_4 emissions during the period, residence category emissions have more than doubled and businesses and institution emissions increased highly.

Table 16 : CH_4 emission trends in Energy

Category	1990 (Gg)	2022 (Gg)	Progress (%)	Annual rate (%)	2050 Projection (Gg)
Production d'électricité	0,01	0,04	668,3%	7,0%	0,25
Industries	0,02	0,05	126,1%	2,8%	0,11
Domestic Aviation	0,00	0,00	-38,4%	-1,6%	0,00
Ground transport	0,13	1,10	716,1%	7,2%	7,28
Rail Transport	0,00	0,00	-55,8%	-2,7%	0,00
Commerce and institutions	0,46	22,43	4 811,0%	13,9%	746,12
Residences	16,87	35,39	109,7%	2,5%	68,93
Agriculture, forestry and Fishery	0,00	0,00	-	-	-
Total	**17,86**	**60,28**	**237,5%**	**4,1%**	**180,14**

Source : MEEA/SP-CNDD/IGES,2024

For transport, energy, manufacturing and construction industries, their emissions also increased over the same period, but remain at low levels.

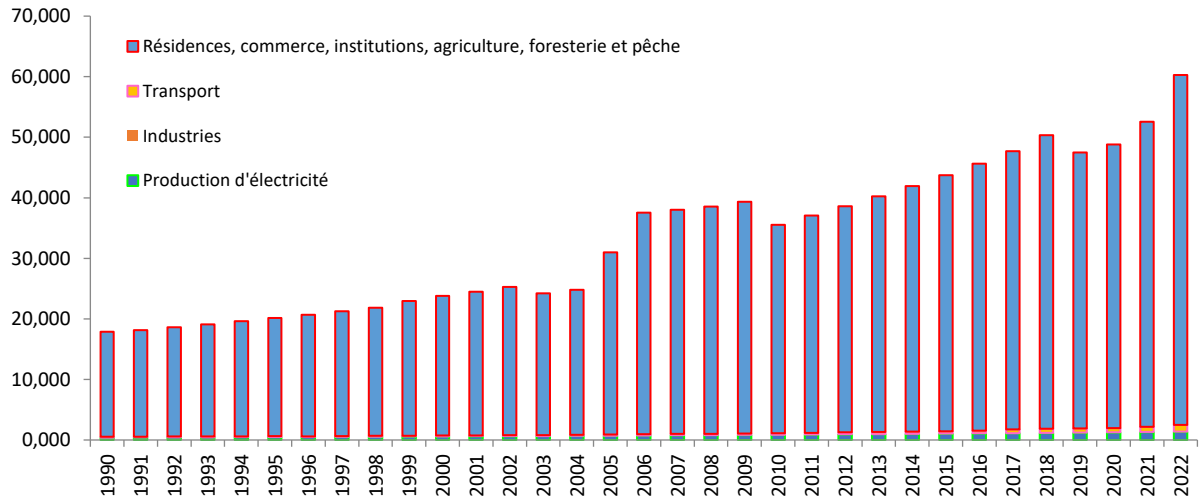


Diagram 36 : Evolution of CH_4 emissions from categories in energy from 1990 to 2022 in Gg.

The breakdown of emissions by subsectors of transport, power generation, industry, residence, trade and institutions and agriculture-forestry and fisheries provides the following analysis elements:

- residence category emissions steadily increased over the period ;
- transport sector emissions become more and more important ;
- CH_4 emissions from the electricity generation, industry, trade and institutions and agriculture-forestry and fisheries categories have changed very little over the period ;
- emissions from domestic aviation and rail transport categories decreased over the same period.

N_2O emissions in Energy

N_2O in national emissions is the third largest in GHG emissions. In this regard, contribution of categories to N_2O emissions and trend analysis should be studied.

➢ **Contribution of categories to N_2O emissions in Energy**

In 1990, the main N_2O emitting categories were residences (83.9 %), transport [land (10.8%), rail (2.0 %), domestic aviation (1%)], trade and institutions (1.7 %), industry (1.2 %) and electricity generation (0.4 %).

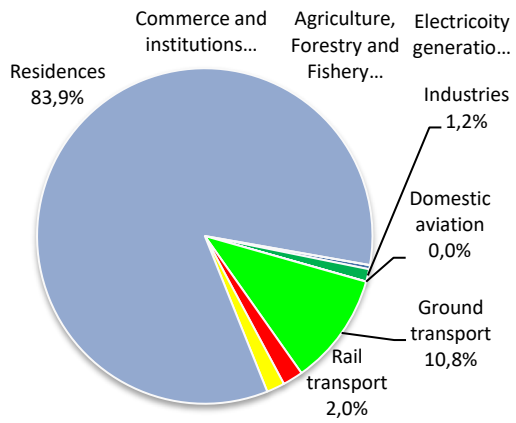


Diagram 37 : Distribution of CH_4 emissions by category in 1990 in Energy

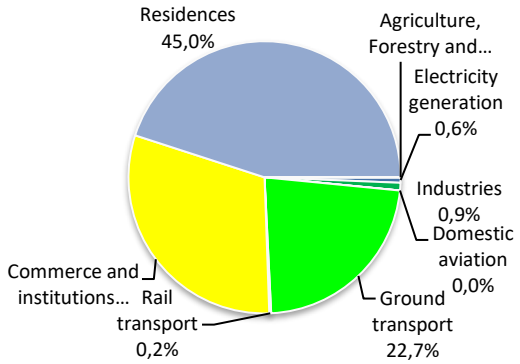


Diagram 38 : Distribution of CH_4 emissions by category in 2022 in Energy

In 2022, transport category share (23%) in total GHG emissions in energy increased highly. It is the subcategory of land transport that explains this strong increase compared to 1990, going from 10.8 % in 1990 to 22.7% in 2022. The weight of the domestic aviation category remains negligible (< 1%). As well as the share of electricity production sub-categories in N_2O emission remained stable. From 0.4% in 1990 to 0.6% in 2022.

The share of trade and institution sub-categories in N_2O emissions increased sharply from 1.7 % in 1990 to 30.5% in 2022.

➢ Analysis of N_2O emission trends in Energy

In Burkina Faso, Energy N_2O emissions increased over the period 1990-2022. With an estimate of about 0.31 Gg in 1990, N_2O emissions rose to nearly 1.13 Gg for the entire energy sector, an increase of 271.8%.

As with CO_2 or CH_4 emissions over the period, N_2O emissions from the residence category are the largest. They account for more than 40% of total N_2O emissions from energy.

Table 17 : N_2O emission trends in Energy

Category	1990	2022	Progress (%)	Annual rate (%)	2050 Projection
Electricity generation	0,00	0,01	500,7%	6,2%	0,03
Industries	0,00	0,01	184,5%	3,5%	0,02
Domestic Aviation	0,00	0,00	-38,4%	-1,6%	0,00
Ground Transport	0,03	0,22	689,5%	7,1%	1,40
Rail Transport	0,01	0,00	-55,8%	-2,7%	0,00
Commerce et institutions	0,00	0,29	6519,1%	15,0%	12,82
Residences	0,21	0,43	102,3%	2,4%	0,82
Agriculture, Forestry and Fishery	0,00	0,00	-	-	-
Total	0,31	1,13	271,8%	4,5%	3,70

Source : MEEA/SP-CNDD/IGES,2024

Regarding the transport and energy industry categories, their N_2O emissions also increased over the same period, but remain at low levels compared to emissions from the Residential categories.

Similarly, the categories of manufacturing and construction industries and trade and institutions, their emissions in N_2O also increased over the same period, but remain at very low levels relative to emissions of residence categories.

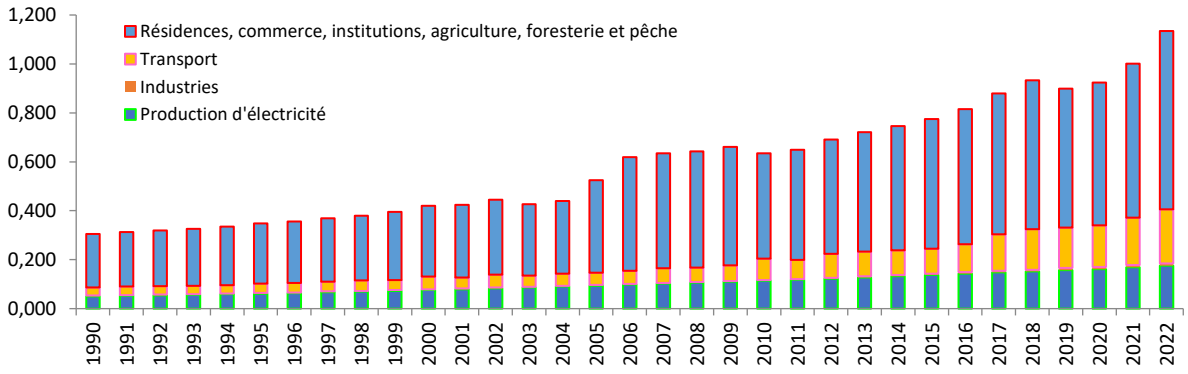


Diagram 39 : Evolution of N_2O emissions in energy from 1990 to 2022 in Gg.

If the observed trend is maintained, in 2050 energy will emit approximately 3.70 Gg Eq- N_2O.

1.3.2.2 Emissions in the Industrial processes sector and Product use (IPPU)

Emission estimates for the year 2022 in IPPU include carbon dioxide (CO_2), hydrofluorocarbons (HFCs), sulfur oxides (SOx) and non-methane volatile organic compounds (NMVOCs).

GHG emissions are directly derived from processes such as mineral and metal production, refrigeration and air conditioning, use of lubricants, paraffin waxes, asphalt for road paving, and food and beverage production.

Direct gas emissions:

- CO_2 emissions: 167.05 Gg;
- HFC emissions: 1205.64 Gg-Eq-CO_2;

Indirect gas emissions:

- NMVOC emissions: 37.93 Gg;
- SO_2 emissions: 0.063 Gg

Total GHG emissions in 2022 in IPPU are 1,372.7 Gg Eq-CO2.: The sector emitted 167.06 Gg of CO_2 mainly from mineral production, use of lubricants and paraffin waxes, and metal production. The sector also emitted 1,205.64 Gg Eq-CO_2 from refrigeration and air conditioning; 0.063 Gg of SO_2 in zinc production; and 37, 928 Gg of NMVOC attributed to solvent use (asphalts used for road paving, solvent use) and food and beverage preparation processes.

GHG emissions in CO_2 equivalent in the industrial processes sector

This section presents GHGs emitted in IPPU in CO_2 equivalent. There are four (4) GHG emission source categories for IPPU: ODS substituents, mineral industry, metal industry, and non-energy products from fuels and solvent use.

- **Contribution of categories to GHG emissions in IPPU**

Diagram 40and Diagram 41 present contribution of source categories to total GHG emissions in CO_2 equivalent in IPPU for 1995 and 2022. For these two years, total GHG emissions in the sector were 37.46 Gg Eq-CO_2 and 1,372.7 Gg Eq-CO_2, respectively.

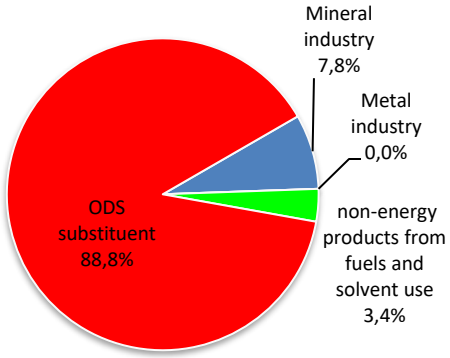


Diagram 40 : Distribution of GHG emissions in IPPU by category in 1995

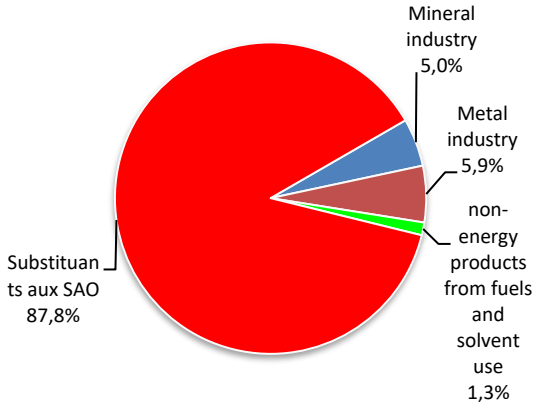


Diagram 41 : Distribution of GHG emissions in IPPU by category in 2022

ODS substituents, mineral industry, non-energy products from fuels and solvent use are major contributors to GHG emissions in 1995. These categories contributed respectively to 88.8%, 7.8% and 3.4% of GHG emissions of that year. Contributions have changed over the years. Indeed, in 2015, contribution of metal industry category, which was zero in 1995, rose to 27.5%, a gain of 27.5 percentage points. This increase in metal industry contribution is due to the zinc mine entry into production from 2013. Between 2015 and 2022, contributions amounted to 87.8% for ODS substituents; 5.9% for metal industry; 5% for mineral industry and 1.3% for non-energy products from fuels and solvent use.

Over the entire period from 1995 to 2022, mineral industry and non-energy products from fuels and solvent use contributed less and less to total GHGs emitted in IPPU.

- **Trend analysis of GHG emissions in IPPU**

GHG emissions in CO_2 equivalent in IPPU have a general upward trend with higher growth since 2008 and a peak in 2020. This higher growth since 2008 is attributed to ODS substituents. This can be explained by increased demand for cooling equipment (refrigerators, freezers and air conditioners). Indeed, overall GHG trend in Eq-CO_2 is quite similar to trend in Eq-CO_2 emissions in the ODS substituents category.

Table 18 : GHG emission trends in IPPU

Categories	1995 Gg Eq-CO_2	2022 Gg Eq-CO_2	Progress over the period (%)	Annual rate (%)	2050 Projection Gg Eq-CO_2
Mineral industry	2,912	68,423	2249,7%	16,2%	4604,75
Metal industry *	NE	80,462	-10,7%	-0,5%	69,17
Non-Energy Products from Fuels and Solvent Use	1,265	18,171	1336,2%	13,5%	634,36
ODS Substituents	33,279	1205,643	3522,9%	18,6%	144 528,32
Total	37,456	1372,698	3564,8%	18,7%	167 101,14

** Begins in 2013*
Source: MEEA/SP-CNDD/IGES, 2024

Over the entire period, ODS substituent category contributed the most to GHG emissions. Indeed, emissions in this category rose from 33.3 Gg to 1,205.6 Gg with an annual growth rate of 18.6%. The metal industry is the second largest contributor to GHG emissions in nature. In 1995, emissions in this category in CO_2 equivalent were zero and, in 2022, emissions rose to 286.1Gg in 2021 before falling back to 80.5 Gg in 2022. The annual growth rate for this category is 5.2%. This increase in emissions from metal industry is explained by the zinc mine entry into production in 2013, which experienced a production shutdown in 2022.

In addition, there has been a strong increase in GHG emissions from mineral industry and non-energy products from fuels and solvent use. Indeed, emissions in these two categories experienced annual growth rates of 16.2% and 13.5% respectively.

Overall, GHG emissions from IPPU will increase at an annual rate of 12.0% over the period 1995 to 2022. GHG emissions projections for sector in 2050 are 167,101.1 Gg Eq-CO_2 (Table 18).

Non-energy products from fuels and solvent use are the lowest GHG emission categories in CO_2 equivalent over the entire period.

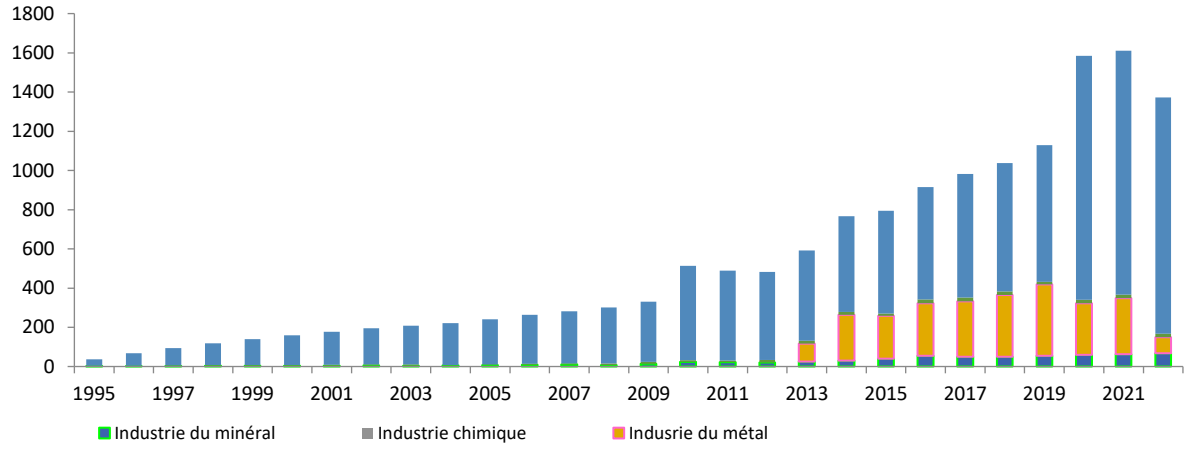


Diagram 42 : Evolution of GES$_2$ emissions from categories in IPPU from 1995 to 2021 in Gg

- **Contribution of direct gases to GHG emissions in IPPU**

This section presents contribution of various gases to GHG emissions in IPPU. Two gases are mainly emitted in this sector, namely HFC and CO_2. The contribution of HFCs to GHG emissions in the sector increased from 88.8% in 1995 to 87.8% in 2022. Thus, HFC is the most predominant GHG emission gas for the IPPU sector. This increase in contribution of ODS substituent category is largely due to increased demand for cooling equipment such as refrigerators, freezers and also air conditioners.

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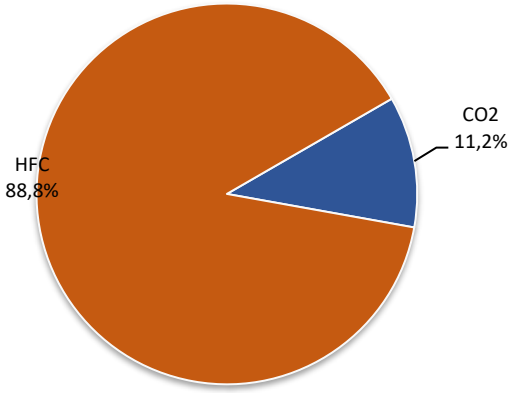


Diagram 43 : Contribution of gases to GHG emissions in IPPU in 1995

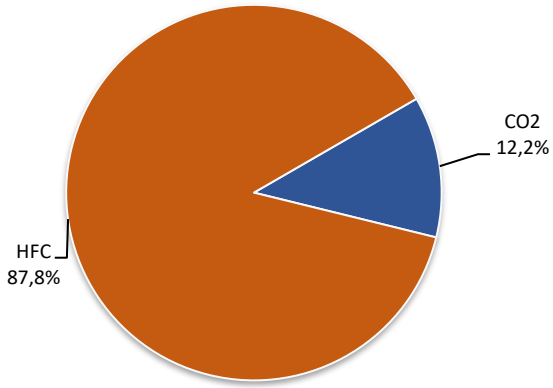


Diagram 44 : Contribution of gases to GHG emissions in IPPU in 2020

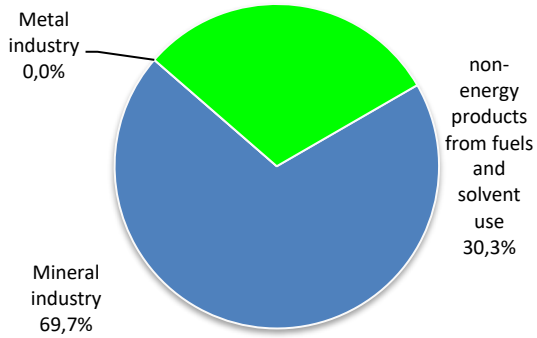
CO_2 emissions in IPPU

In this section, categories of Industrial processes and use of products that emit CO_2 directly into the atmosphere are presented.

- **Contribution of categories to GHG emissions in IPPU**

Mineral industry, metal industry, use of non-energy products from fuels and use of solvents are categories that emit CO_2 directly into the atmosphere.

Metal industry produces more than 69.7% of direct CO_2 emissions of IPPU in 1995. In 2022, its contribution was 48.2%, a loss of 21.6 percentage points. Contribution of non-energy products from fuels and solvent use to CO_2 emissions increased from 30.3% in 1995 to 41% in 2022. With regard to metal industry, its contribution increased from 0.0% in 1995 to 10.9% in 2022. This increase in metal industry contribution is due to the zinc mine entry into production from 2013. Recall that zinc production is the only GHG emission subcategory in metal industry (Diagram 45 and Diagram 46).



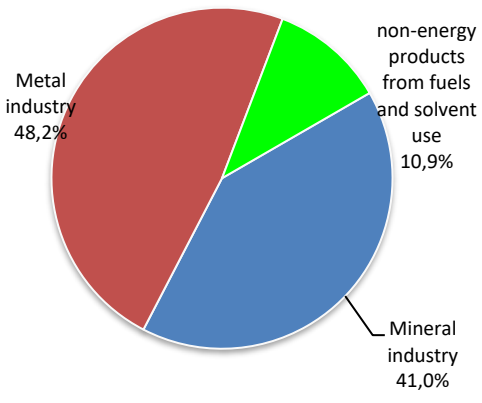


Diagram 45 : Distribution of CO_2 emissions in IPPU by activity category in 1995

Diagram 46 : Distribution of CO_2 emissions in IPPU by activity category in 2022

➢ Trend analysis of CO_2 emissions in IPPU

Total CO_2 emissions in IPPU are 167.1 Gg in 2022: Between 1995 and 2022, these emissions experienced an overall increasing trend, inherent on one hand in an increase in production and use of mineral products (production of zinc, production of quicklime) and an increase in use of lubricants and greases. The change in trend observed from 2019 is explained by a decline in zinc production and especially the zinc mine closure in 2022.

Table 19 : Trend analysis of CO_2 emissions in IPPU

Categories	1995 (Gg)	2022 (Gg)	Progress over the period (%)	Annuel rate (%)	2050 Projection (Gg)
Mineral industry	90,13	80,46	-0,11	-0,01	69,17
Metal industry *	2,91	68,42	22,50	0,16	4 604,75
Non-Energy Products from Fuels and Solvent Use	1,27	18,17	13,36	0,14	634,36
Total	4,18	167,05	38,99	0,19	22 846,83

* Begins in 2013

Source: MEEA/SP-CNDD/IGES, 2024

The Diagram 47 shows that, over the entire period, emissions in metal industry were marginal until 2012 and increased from 2013 onwards, peaking in 2019 at 363.3 Gg. Direct CO_2 emissions are mainly attributable to the Metal Industry category.

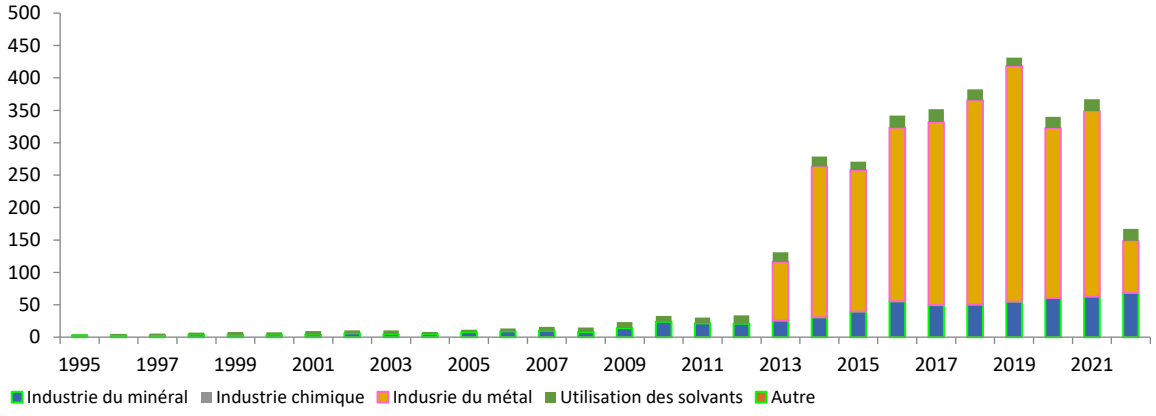


Diagram 47 : Evolution of CO2 emissions in the IPPU by activity category (in Gg)

HFC emissions in IPPU

Estimate of HFCs in the latter category comes mainly from Burkina Faso Ozone Office.

➢ Contribution of categories to HFCs emissions in IPPU

Emissions of HFCs are mainly due to Refrigeration and Air Conditioning category, and that of Fire Protection. In 2022, the share of refrigeration and air-conditioning sub-category in total HFC emissions has fallen from 92.1% in 1995 to 39.3% in 2022.

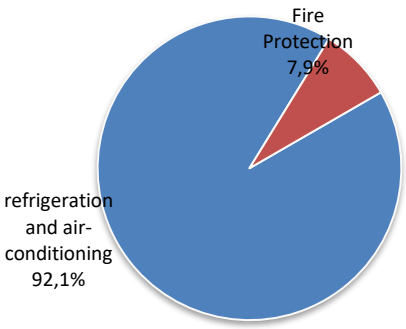


Diagram 48 : Distribution of HFC emissions in IPPU by activity category in 1995

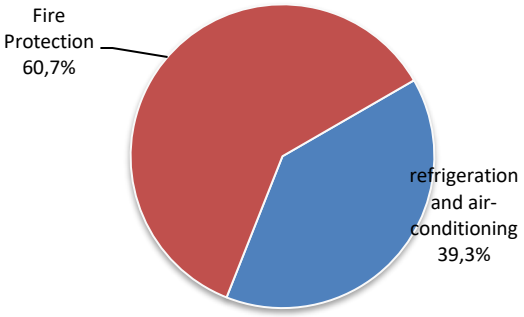


Diagram 49 : Distribution of HFC emissions in IPPU by activity category in 2022

➢ Trend analysis of HFC emissions in IPPU

HFC emissions show a general upward trend with higher growth in 2019. In 25 years, these HFC emissions have increased from 33.3 Gg to 1,205.6 Gg. This can be explained by increased demand for cooling equipment (refrigerators, freezers and air conditioners) and fire protection. However, HFC emissions are declining from 2020, probably linked to COVID and security crisis.

Table 20Indicates that during the period 1995-2022, HFC emissions increased from 33.28 Gg Eq-CO_2 in 1990 to 1,205.64 Gg Eq-CO_2 in 2022. If this trend continues, in 2050 this sector will emit 144,528.32 Gg Eq-CO_2 of HFC.

Table 20 : HFC emission trends in IPPU

Category	1995 (Gg)	2022 (Gg)	Progress (%)	Annual rate (%)	2050 Projection (Gg)
Refrigeration and air conditioning	30,65	474,25	14,47	0,14	18 283,94
Fire proofing	2,63	731,39	277,45	0,31	1 329 888,09
Total	33,28	1 205,64	35,23	0,19	144 528,32

Source: MEEA/SP-CNDD/IGES, 2024

Refrigeration and air conditioning emissions were predominant until 2019, which is justified by the increase in refrigeration equipment. From 2019 onwards, there was a trend reversal with a dominance of emissions from fire protection equipment.

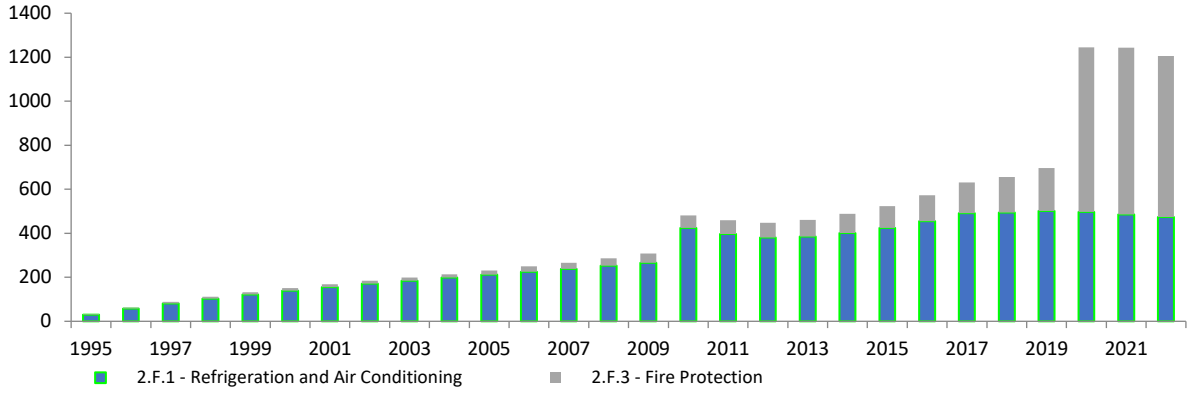


Diagram 50 : Evolution of HFC emissions in CO2 equivalent in IPPU (in Gg)

1.3.2.3 Emissions in Agriculture

Categories that contribute to emissions from Agriculture are enteric fermentation, animal waste management, rice cultivation, agricultural soils, controlled burning of savannahs and burning of agricultural residues in fields. Emission inventory over the period 1990-2022 covered direct (CH_4, N_2O) and indirect (CO, NOx) gases. Emissions estimates on these gases in 2022 in agriculture are expressed as follows:

Direct Gas emissions:

- CH_4 emissions: 562.80 Gg;
- N_2O emissions : 18.86 Gg

Indirect Gas emissions:

- CO emissions: 41.13 Gg;
- NOx emissions:1.25 Gg

GHG emissions in CO_2 equivalent in agriculture

Methane (CH_4) and nitrous oxide (N_2O) are the only direct greenhouse gases emitted by the agriculture.

- **Contribution of categories to GHG emissions in agriculture**

In 1990, the main GHG emitting categories were enteric fermentation (79%), agricultural soils (12%), manure management (7%) and rice cultivation (2%).

Diagram 51 and Diagram 52 show contributions of categories to GHG emissions in Agriculture.

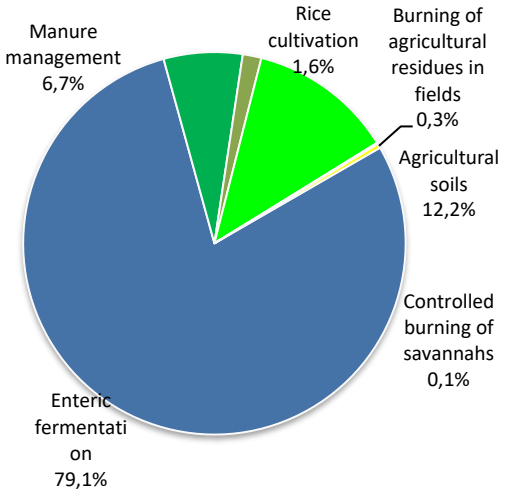


Diagram 51 : Distribution of GHG emissions by category in 1990 in Agriculture

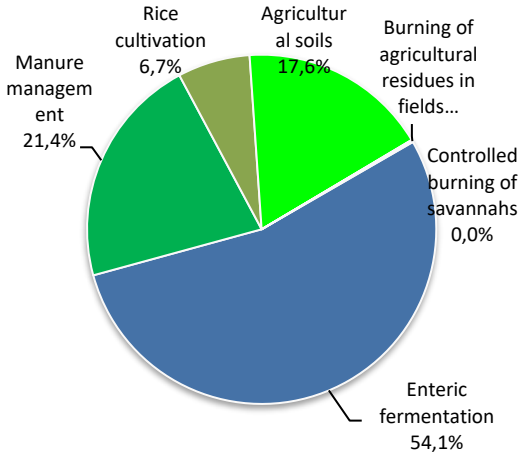


Diagram 52 : Distribution of GHG emissions by category in 2022 in Agriculture

In 2022, enteric fermentation accounted for 54% of CH_4 emissions. Agricultural soils (18%), animal manure management (21%) and rice cultivation (7%) have seen an increase in their share in CH_4 emissions.

- **Trend analysis of GHG emissions in Agriculture**

Between 1990 and 2022, national GHG emissions have been on an upward trend (Diagram 53). Emissions have risen from 7,024.841 Gg Eq-CO_2 in 1990 to 17,664.61 Gg Eq-CO_2 in 2022, an increase of 151.5%. The increase in emissions from Agriculture is largely due to the increase in emissions from categories such as Animal waste Management (708%), Rice cultivation (969%) and Agricultural soils (261%). Category controlled burning of savannas shows a downward trend (14%). (Table 21).

Table 21 : GHG emission trends in Agriculture

Category	1990 Gg Eq-CO_2	2022 Gg Eq-CO_2	Progress (%)	Annual rate (%)	2050 Projection Gg Eq-CO_2
Enteric fermentation	5 553,1558	9 554,20	72,0%	1,8%	15 569,82
Manure management	468,08248	3 786,45	708,9%	7,2%	24 851,37
Rice cultivation	110,7351	1 184,53	969,7%	8,2%	9 997,28
Agricultural soils	859,92544	3 100,66	260,6%	4,4%	9 834,39
Controlled burning of savannas	8,4352513	7,28	-13,7%	-0,5%	6,37
Burning of agricultural residues in fields	24,502017	31,49	28,5%	0,8%	39,47
Total	**7 024,8361**	**17 664,61**	**151,5%**	**3,1%**	**40 506,52**

Source: MEEA/SP-CNDD/IGES, 2024

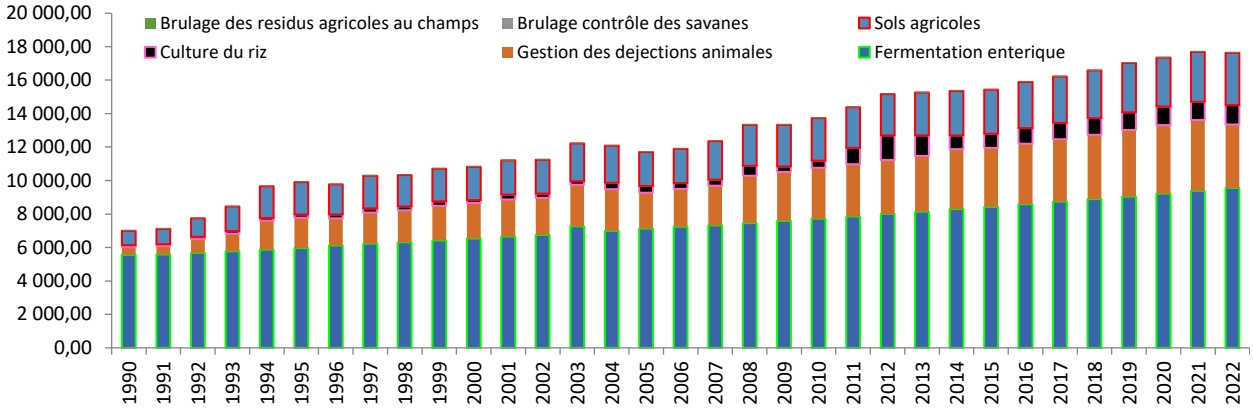


Diagram 53 : Evolution in emissions in GHG equivalent in Gg from 1990-2022 in Agriculture

Enteric fermentation is the main emitting category in agriculture. Although its share in 2022 decreased compared to 1990, from 79% in 1990 to 54% in 2022, emissions rose from 5,553.16 Gg Eq-CO_2 in 1990 to 9,554.20 Gg Eq-CO_2 in 2022, an increase of 72%.

CH_4 emissions in Agriculture

Methane is the largest greenhouse gas in agriculture.

- **Contribution of categories to CH_4 emissions in agriculture**

Total methane emissions in 2022 were estimated at 562.80 Gg. This emission stems mainly from enteric fermentation (81%), rice cultivation (10%) and manure management (9%).

In 1990, contribution to CH_4 emission from enteric fermentation was 94%.

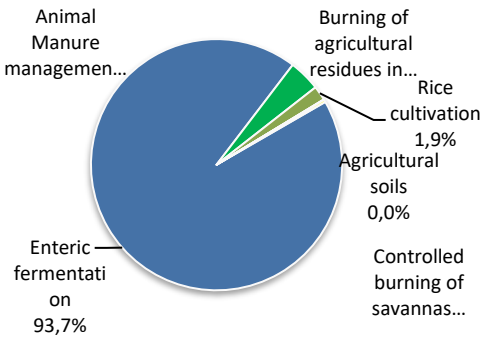


Diagram 54 : Distribution of CH4 emissions by category in 2022 in Agriculture

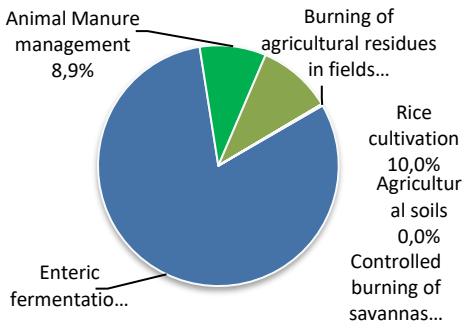


Diagram 55 : Distribution of CH_4 emissions by category in 2022 in Agriculture

- **Trend analysis of CH_4 emissions in Agriculture**

With an estimate of about 340.72 Gg in 1990, CH_4 emissions rose to nearly 562.80 Gg in 2022, an increase of 65% for the entire Agriculture sector.
Over the period, emissions in rice cultivation category increased highly with a growth rate of 970%.

Table 22 : CH_4 emission trends in Agriculture

Category	1990 (Gg)	2022 (Gg)	Progress (%)	Annual rate (%)	Projection by 2050 (Gg)
Enteric fermentation	264,44	454,96	72,0%	1,8%	741,42
Manure management	11,46	50,19	338,0%	5,0%	189,68
Rice Cultivation	5,27	56,41	969,7%	8,2%	476,06
Agricultural soils	0,00	0,00	-	-	-
Controlled burning of savannahs	0,17	0,15	-13,7%	-0,5%	0,13
Burning of agricultural residues in fields	0,84	1,08	28,5%	0,8%	1,36
Total	**340,72**	**562,80**	**65,2%**	**1,7%**	**884,11**

Source : MEEA/SP-CNDD/IGES, 2024

CH_4 emissions increased in Agriculture over the period 1990-2022.

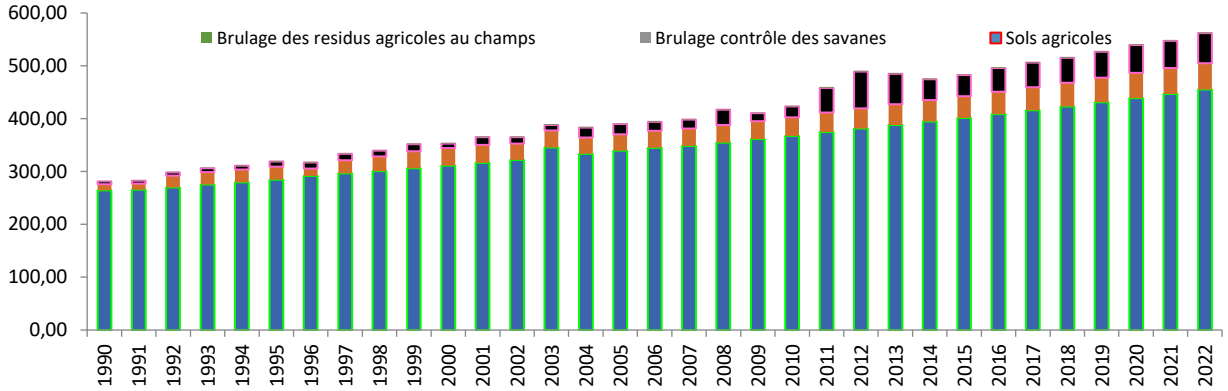


Diagram 56 : Evolution of CH_4 emissions from categories in Agriculture from 1990 to 2022 in Gg.

N_2O emissions in Agriculture

N_2O is the second largest GHG in agriculture. In this regard, contribution of categories to N_2O emissions and their trend analysis are showed.

- **Contribution of categories to N_2O emissions in Agriculture**

In 1990, main categories emitting N_2O were agricultural soils (78%) and manure management (21%).

In 2022, the share of agricultural soil category decreased (53%). On the other hand, the proportion of animal manure management increased from 21% to 47%.

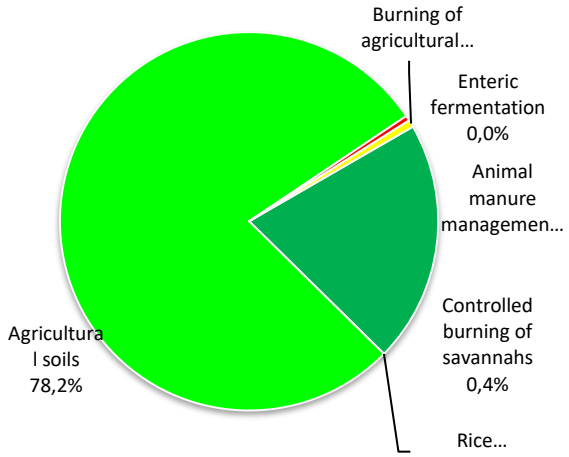


Diagram 57 : Distribution of N_2O emissions by category in 2022 in Agriculture

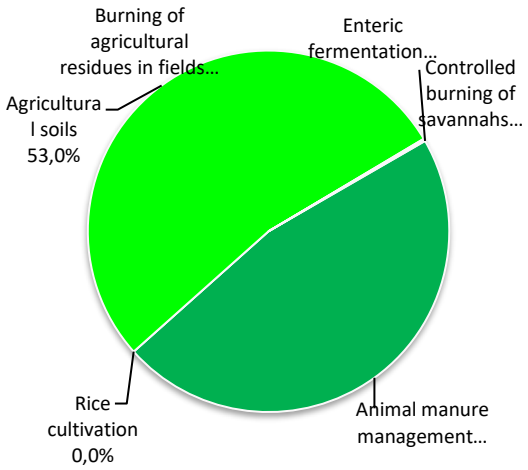


Diagram 58 : Distribution of N_2O emissions by category in 2022 in Agriculture

➢ Analyse Trend analysis of N_2O emissions in Agriculture

N_2O emitted in Agriculture stems from the following categories: Manure management, agricultural soils, controlled burning of savannahs and burning of agricultural residues in fields. With the exception of emissions related to controlled burning of savannahs, which decreased by 14% over the period 1990-2022, the other categories increased by 29%, 261% and 1101% respectively for burning agricultural residues in the fields, agricultural soils and management of animal waste.

Table 23 : N_2O emission trends in Agricuture

Category	1990	2022	Progres (%)	Annual rate (%)	2050 Projection
Enteric fermentation	0,00	0,00	-	-	-
Animal manure management	0,73	8,81	1101,3%	8,6%	82,58
Rice cultivation	0,00	0,00	-	-	-
Agricultural soils	2,77	10,00	260,6%	4,4%	31,72
Controlled burning of savannahs	0,02	0,01	-13,7%	-0,5%	0,01
Burning of agricultural residues in fields	0,02	0,03	28,5%	0,8%	0,04
Total	3,55	18,86	431,9%	5,7%	84,87

Source : MEEA/SP-CNDD/IGES,2024

N_2O emissions from Agriculture increased over the period 1990-2022. With an estimate of about 3.55 Gg in 1990, N_2O emissions rose to nearly 18.86 Gg in 2022, an increase of 431.9% for the entire Agriculture sector.

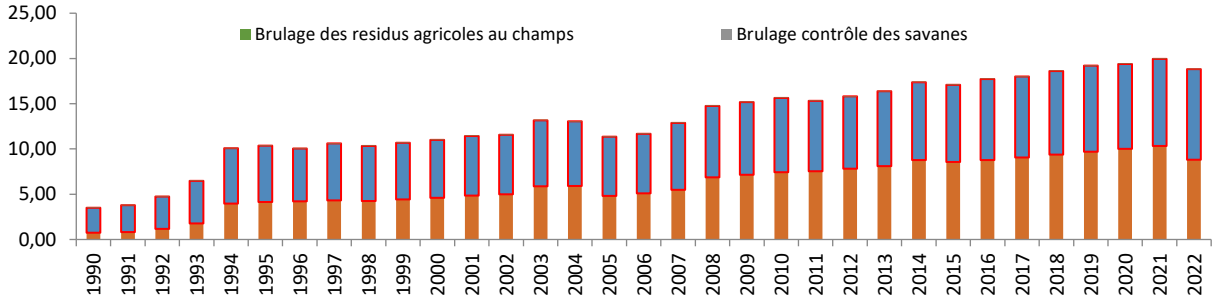


Diagram 59 : Evolution of N_2O emissions in Agriculture from 1990 to 2022 in Gg.

If the observed trend is maintained, in 2050 Agriculture will emit approximately 84.87 Gg Eq- N_2O.

1.3.2.4 Emissions/removals in Land Use, Land Use change and Forestry (LULUCF)

Categories that contribute to emissions/removals from forestry sector and other land uses are Forest Land, Cropland, Grassland, Wetlands, Habitat, other lands and Forest products crops.

Emission inventory over the period 1990-2022 covered direct (CO_2, CH_4, N_2O) and indirect (CO, NOx) gases. Emissions estimates on these gases in 2022 in LULUCF are expressed as follows:

Direct gases:

- CO_2 emissions : 44,686.98 Gg;
- CH_4 emissions : 0.09 Gg;
- N_2O emissions : 0.01 Gg

Indirect gases:

- CO emissions : 0.16 Gg;
- NOx emissions 2.62 Gg

-

Emissions/removals in LULUCF are mainly CO_2 (99.99%) and to a lesser extent CH_4 and N_2O which account for less than 0.05%.

GHG emissions in CO_2 equivalent in LULUCF

Net removals (including CO_2, CH_4 and N_2O emissions) from the LULUCF in 2022 were 44,692.15 Gg Eq-CO_2. They have increased by 63.14% since 1990 and by 38.375% compared to 2015 (the reference year of the third Communication). The long-term upward trend in emissions since 1990 is largely due to population pressure on forest resources, particularly for timber harvesting.

Contribution of categories to GHG emissions in LULUCF

In 1990, the main emitting category was forest land (51%), particularly in its forest component remaining forest and grasslands (11%). The main removal category was cropland (38%) (Diagram 60).

In 2022, forest land remains the main emitting category with an increasing proportion rising to 59%. Cultivated land is a removal category. However, the proportion has decreased from 38% in 1990 to 34% in 2022 (Diagram 61).

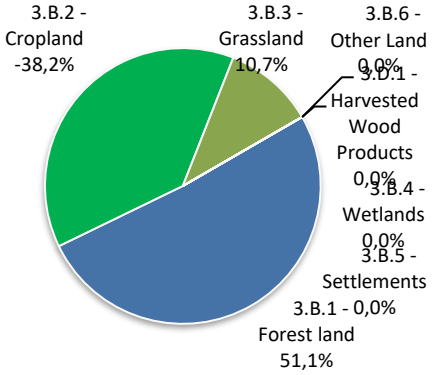


Diagram 60 : Distribution of GHG emissions by category in 1990 in LULUCF

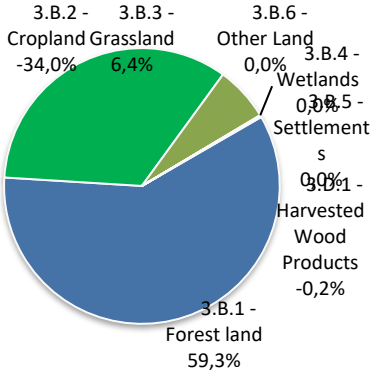


Diagram 61 : Distribution of GHG emissions by category in 1990 in LULUCF

➢ Trend analysis of GHG emissions in LULUCF

Disaggregation of emissions by category shows that removals occur in cropland with removals of 47,969.45 Gg of CO_2 in 2022 with an increase rate of 9% compared to 1990. These removals from cultivated land are due to agroforestry, including the "*Park system*" which is widely practiced in farmland in Burkina Faso. Forest land category emissions in 2022 increased by 41% compared to 1990. Emissions in this category are due to several factors including wood cutting and bushfires. The growing population remains dependent on forest resources to meet their domestic energy needs. Emissions from wetlands and Human Habitat in 2022 were the result of higher growth, respectively of 138% and 390% compared to 1990. Emissions from the grassland and harvested Wood products categories have decreased compared to 1990 in rates from 27% and to 49% respectively.

Table 24 : GHG emission trends in LULUCF

	1990 Gg Eq-CO_2	2022 Gg Eq-CO_2	Progress (%)	Annual rate (%)	2050 Projection Gg Eq-CO_2
Forest lands	59 192,54	83 591,41	41%	1,2%	114 042,53
Croplands	-44 178,5	-47 969,50	9%	0,3%	-51 658,65
Grasslands	12 348,56	9 022,00	-27%	-1,0%	6 801,75
Wetlands	26,41	62,99	138%	2,9%	137,71
Human habitats	-4,08	-19,96	390%	5,4%	-83,37
Other lands	0	0	0	0	0
Harvest wood products	**8,99**	**4,56**	**-49%**	**-2,2%**	**2,47**

Source : MEEA/SP-CNDD/IGES,2024

In general, LULUCF category emissions/removals have an upward trend of 1.2%; 2.9% and 5.4% annual progress in emissions for forest lands, wetlands and human habitat, respectively. Emissions in the grasslands decreased by 1% annually starting in 1990. Removals in cropland increased at a rate of 0.3% annually.

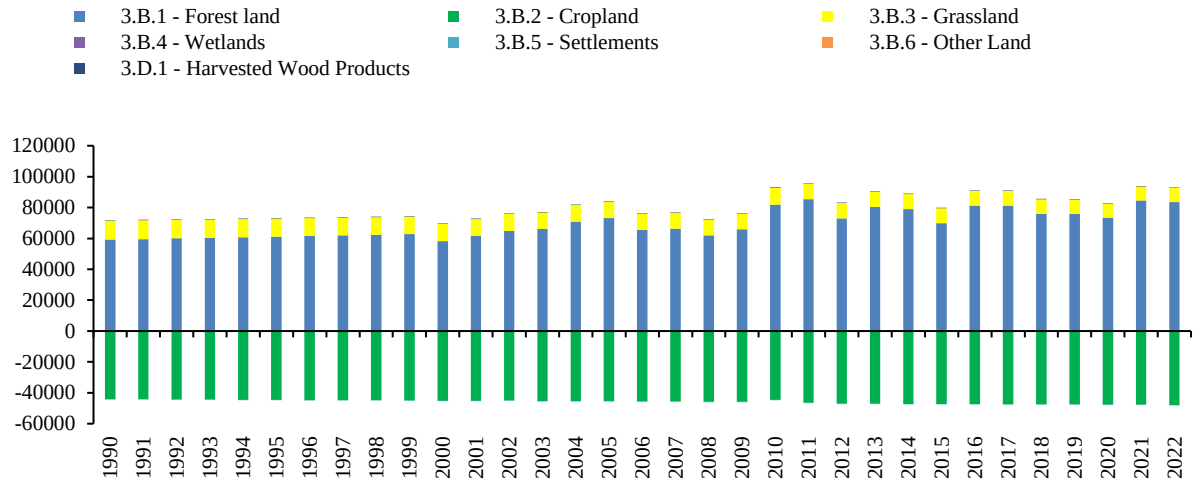


Diagram 62 : Evolution in emissions in GHG equivalent in Gg from 1990-2022 in LULUCF

The following analyzes deal with emissions and removals, gas by gas.

CO_2 emissions/removals in LULUCF

Contribution of categories to CO_2 emissions in LULUCF

In 1990, main categories emitting CO_2 were forest lands (51%) and grassland (11%). Cultivated Land absorbed CO_2 (38%) (Diagram 63)

In 2022, the main categories emitting CO_2 remain forest land (60%) and grassland (6%). Cultivated land category remains a CO_2 sink (34%) with a slightly decreasing proportion (Diagram 64).

The other categories had proportions of less than 0.05 in both 1990 and 2022.

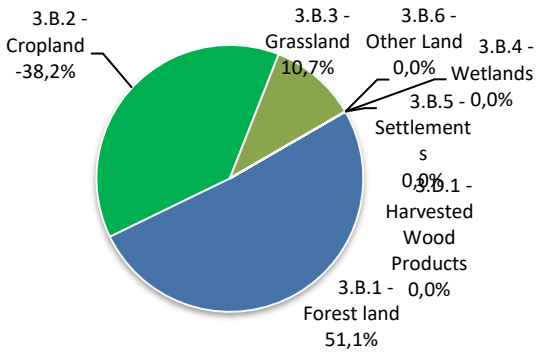


Diagram 63 : Distribution of CO2 emissions by category in LULUCF in 1990

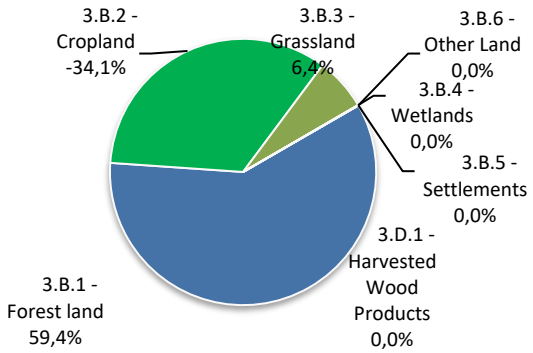


Diagram 64 : Distribution of CO2 emissions by category in LULUCF in 2022

Trend analysis of CO_2 emissions in LULUCF

Considering categories, removals increased by 9% in croplands. As for emissions, they increased by 41%, 85% and 138% respectively for forest lands, human settlements and wetlands. Emissions from grasslands declined by 27% (Table 25).

Table 25 : CO_2 emission trends in LULUCF

	1990 (Gg)	2022 (Gg)	Progress (%)	Annual rate (%)	2050 Projection (Gg)
Forest lands	59 192,54	83 591,41	41%	1,2%	114 042,53
Croplands	-44 178,52	-47 969,45	9%	0,3%	-51 658,65
Grasslands	12 348,56	9 022,00	- 27%	-1,0%	6 801,75
Wetlands	26,41	62,99	138%	2,9%	137,71
Human habitats	-4,08	-19,96	390%	5,4%	-83,37
Other Lands	0	0	-	0,0%	0,00
Harvested Wood Products	0	0	-	0,0%	0,00

Source: MEEA/SP-CNDD/IGES, 2024

CO_2 emissions/removals increased in LULUCF over the period 1990-2022. For the LULUCF as a whole, this represents growth of almost 42%. This upward trend is essentially linked to a sharp increase in logging and other disturbances, in particular bush fires on abandoned managed land and malfunctions in the harvesting of wood products (Diagram 65).

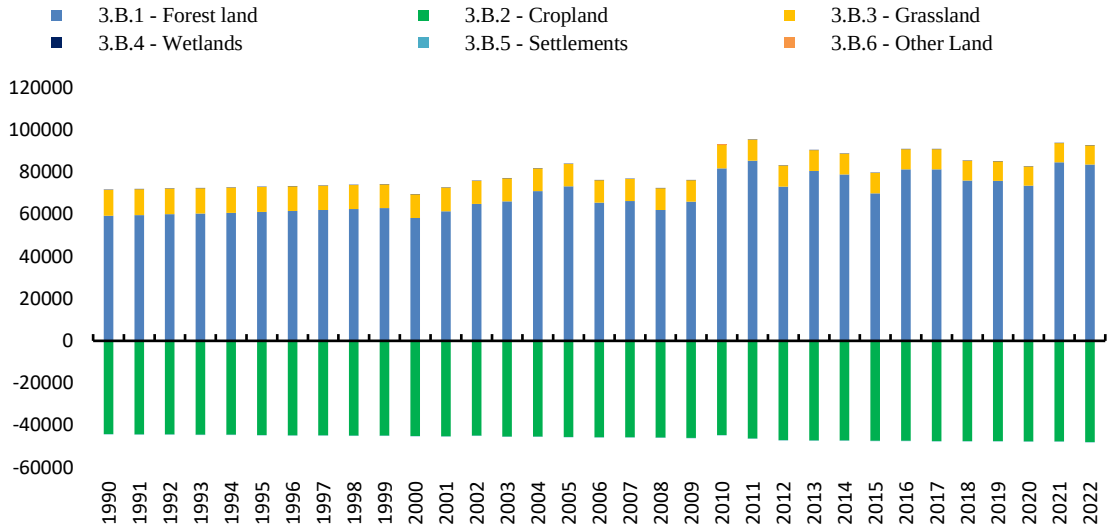


Diagram 65 : Evolution of CO_2 emissions by category in LULUCF from 1990 to 2022 in Gg

Emissions CH_4 emissions in LULUCF

CH_4 emissions from LULUCF sub-sector are entirely attributable to the Harvesting of wood products category. They are low, representing just 0.18 Gg in 1990 and 0.09 Gg in 2022.

CH_4 emissions in 2022 will be 49% lower than in 1990 (Diagram 66). Over the period 1990-2022, the annual decline rate was 2.2%. If the trend continues, CH_4 emissions from LULUCF will be negligible (0.05 Gg) in 2050.

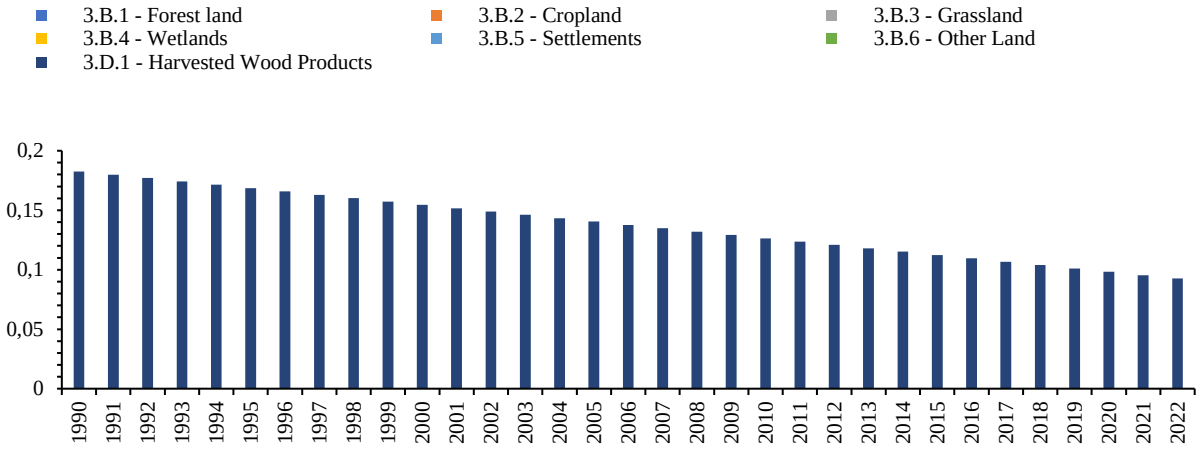


Diagram 66 : Evolution of CH_4 emissions by category in LULUCF from 1990 to 2022 in Gg

N_2O emissions in LULUCF

N_2O emissions from LULUCF are low. It represents less than 0.05% of emissions in the subsector in both 1990 and 2022. It resulted entirely from Wood products harvesting category. These emissions are low and represent just 0.18 Gg in 1990 and 0.09 Gg in 2022.

Emissions of N_2O over the period 1990-2022 have a decreasing trend of 49% (Diagram 67). Over this period, the annual decline rate was 2.2%. If the trend continues, N_2O emissions from LULUCF will be negligible (0.05 Gg) in 2050.

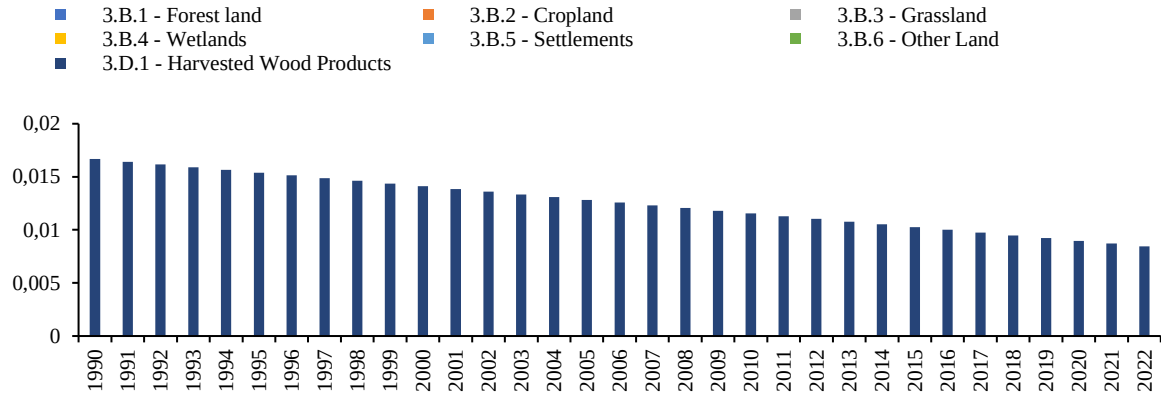


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Diagram 67 : Evolution of N_2O emissions in LULUCF from 1990 to 2022 in Gg

1.3.2.5 Emissions in waste

Estimated emissions in 2022 in waste include carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_20), carbon monoxide (CO), nitrogen oxides (NOx), sulfur oxides (SOx) and non-methane volatile organic compounds (NMVOCs).

GHG emissions come directly from solid waste disposal, biological treatment of solid waste, incineration and open burning of waste, and waste water treatment and discharge.

Direct gas emissions:

- CO_2 emissions : 241.40 Gg;
- CH_4 emissions : 42.11 Gg;
- N_2O emissions : 0.38 Gg

Indirect gas emissions:

- NOx emissions 1.51 Gg;
- CO emissions : 26.53 Gg;
- NMVOC emissions : 55.37 Gg;
- SO_2 emissions : 0.05 Gg

Total GHG emissions in 2022 in waste are 1,522 Gg Eq-CO_2. By category, the sector emitted 14 GG EQ-CO_2 from solid waste disposal, 28 Gg Eq-CO_2 from biological waste treatment, 345 Gg Eq-CO_2 from incineration and open burning, and 1,163 Gg Eq-CO_2 from waste water treatment and discharge.

GHG emissions in CO_2 equivalent in Waste

This section presents GHGs emitted in waste in CO_2 equivalent. There are four (4) GHG emission source categories for the waste: Solid waste disposal, biological waste treatment, waste incineration and open burning, and waste water treatment and discharge.

- **Contribution of categories to GHG emissions in the Waste**

Diagram 68 and Diagram 69 present contribution of source categories to total GHG emissions in CO_2 equivalent in Waste for 1995 and 2022. For these two years, total GHG emissions in the sector were 660 Gg Eq-CO_2 and 1,522 Gg Eq-CO_2, respectively.

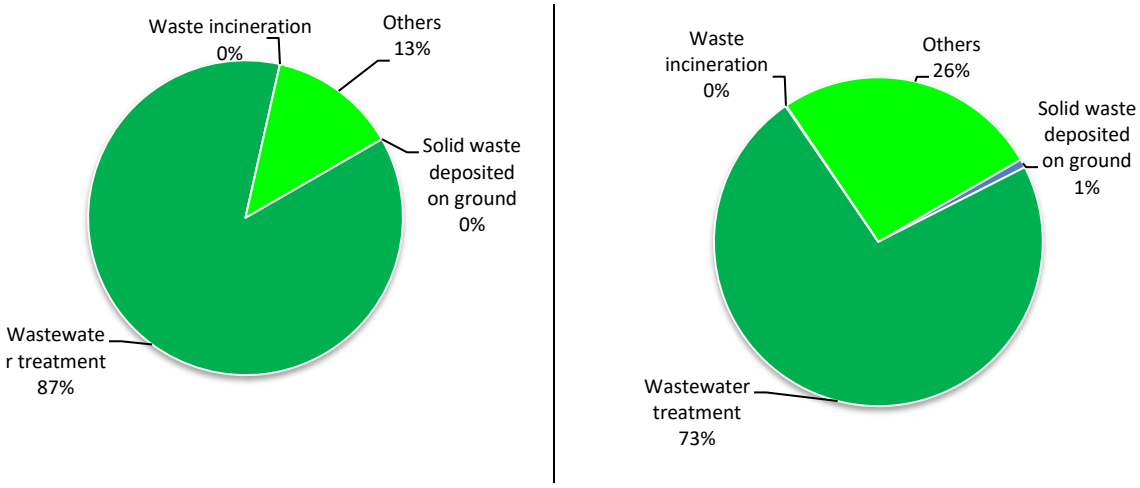

Diagram 68 : Distribution of GHG emissions by category in 1990 in Waste

Diagram 69 : Distribution of GHG emissions by category in 2022 in Waste

Waste water treatment is the most important category in the sector in both 1990 (87%) and 2022 (73%). Categories such as biological waste treatment and open burning come in second place and are growing (from 13% to 26%).

➢ Trend analysis of GHG emissions in Waste

Between 1990 and 2022, national GHG emissions have been on an upward trend (Diagram 29). Indeed, emissions have risen from 544.54 Gg Eq-CO2 in 1990 to almost 1,244.38 Gg Eq-CO2 in 2022, an increase of 128.5%. The rise in emissions from Waste is largely due to an increase in emissions from waste water treatment category.
One of the reasons for this increase is the increase in the number of waste water treatment plants, as well as the increase in number of latrines. However, the category of others (biological treatment and open burning) is highly growing with an increase of 354% (Table 26)).

Table 26 : GHG emission trends in Waste

Category	1990 Gg Eq-CO_2	2022 Gg Eq-CO_2	Progress (%)	Annual rate (%)	2050 Projection Gg Eq-CO_2
Solid waste deposited on ground	0,12	10,52	8 957,5%	16,2%	606,99
Waste Water Treatment	472,82	907,67	92,0%	2,2%	1 632,47
Waste incineration	0,00	1,11	-	-	-
Other	71,61	325,07	354,0%	5,2%	1 268,51
Total	544,54	1 244,38	128,5%	2,8%	2 618,06

Source : MEEA/SP-CNDD/IGES,2024

In terms of importance, emissions from waste water treatment exceed those of deposited solid waste category in both 1990 and 2022. However, in terms of annual growth, category of solid waste deposited on the ground leads with 16.2%.

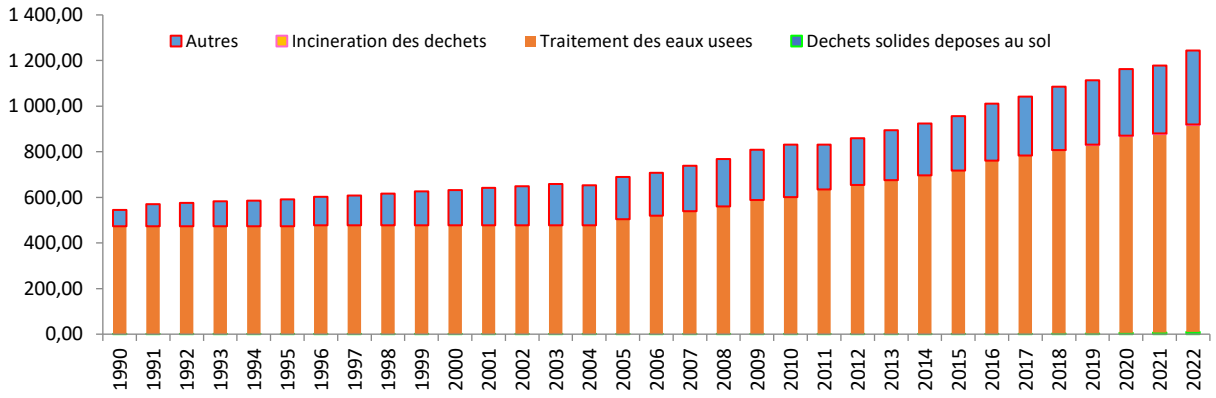

Diagram 70 : Evolution in GHG emissions from categories within Waste in Gg from 1990-2022

GHG emissions from waste water treatment category account for the large part over the period, although its percentage contribution decreases over time to the benefit of other categories, including open burning, biological treatment and waste deposited on the ground.

CH_4 emissions in Waste

Methane is the largest greenhouse gas in waste.

- **Contribution of categories to GHG emissions in Waste**

In 1990, approximately 96% of estimated methane emissions were from waste water treatment. This rate was 92% in 2022. The rest of methane stems from the biological treatment of waste and waste deposited on ground, which increases from 4% in 1990 to 7% in 2022.

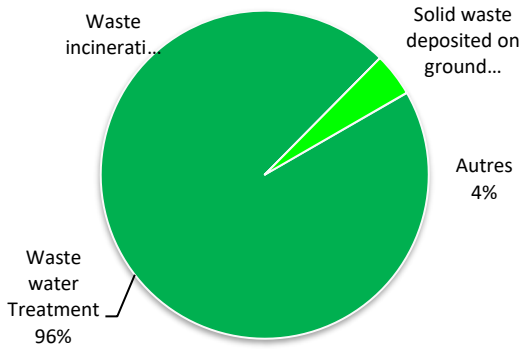

Diagram 71 : Distribution of CH4 emissions by category in 1990 in Waste

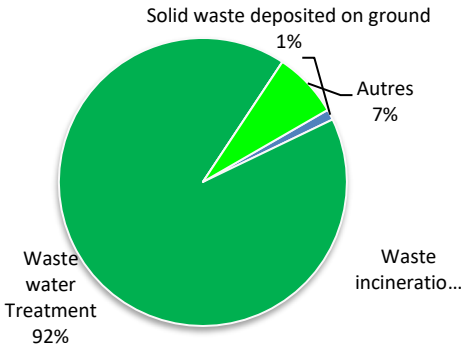

Diagram 72 : Distribution of CH4 emissions by category in 2022 in Waste

- **Trend analysis of CH_4 emissions in waste**

CH_4 emissions increased in Waste over the period 1990-2022. With an estimate of about 18.61 Gg in 1990, CH_4 emissions rose to nearly 42.11 Gg in 2022, an increase of 65% for the entire Waste. In terms of CH_4 emissions over the period, emissions from the waste water treatment category more than doubled, while those from other categories rose highly.

Table 27 : Trend analysis of CH_4 emissions in Waste

Category	1990 (Gg)	2022 (Gg)	Progress (%)	Annual rate (%)	2050 Projection (Gg)
Solid waste deposited on ground	0,01	0,50	8 957,5%	16,2%	28,90
Waste water Treatment	17,81	38,51	116,2%	2,6%	77,09
Waste incineration	0,00	0,00	-	-	-
Other	0,79	3,10	290,7%	4,6%	10,55
Total	18,61	42,11	126,2%	2,8%	87,80

Source : MEEA/SP-CNDD/IGES,2024

It should be noted, however, that the greatest increase is in the category of waste deposited on ground with 8,957%. This is related to the establishment of controlled landfills.

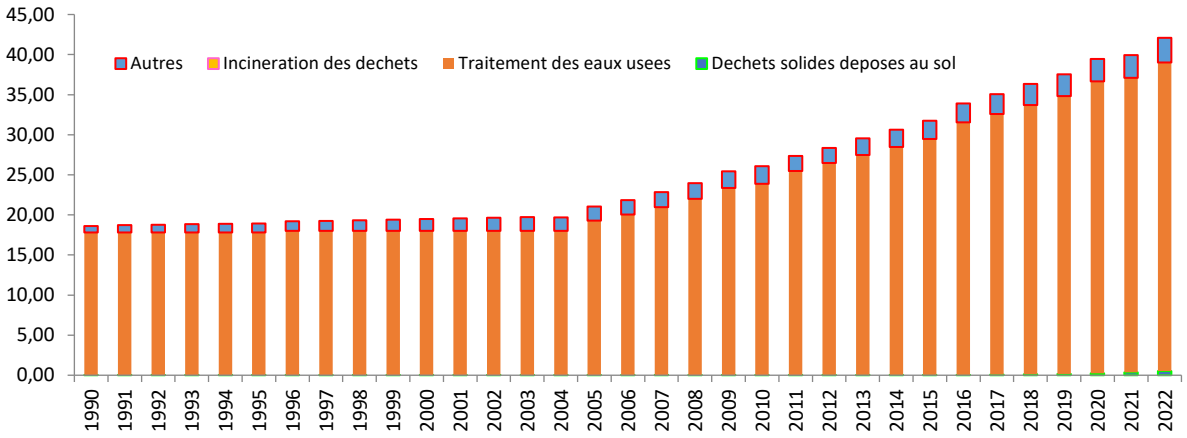

Diagram 73 : Evolution of CH_4 emissions from categories in Waste from 1990 to 2022 in Gg.

Diagram 73 shows the significant contribution of waste water treatment to methane emissions.

N_2O emissions in Waste

N_2O in Waste is the third largest in GHG emissions. In this regard, contribution of categories to N_2O emissions and trend analysis should be studied.

- **Contribution of categories to N_2O emissions in Waste**

In 1990, main categories emitting N_2O were waste water treatment (95%) and others (5%). These are the same categories in 2022 but with an increase in the share of others (17%) and a decrease in the contribution of waste water treatment (83%).

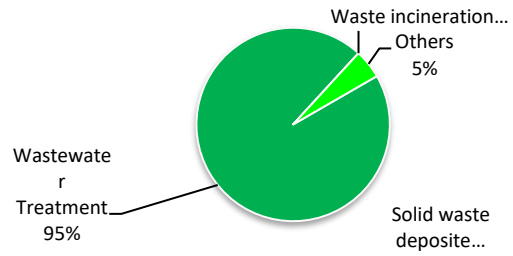

Diagram 74 : Distribution of N_2O emissions by category in 2022 in waste

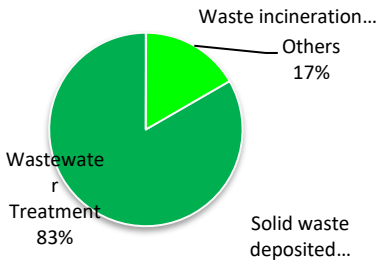

Diagram 75 : Distribution of N_2O emissions by category in 2022 in the Waste

- **Trend analysis of N_2O emissions in Waste**

N_2O emissions increased in Waste over the period 1990-2022. From an estimated 0.334 Gg in 1990, N_2O emissions will rise to 0.382 Gg in 2022.

As with CH_4 emissions over the period, N_2O emissions from the waste water treatment category are the largest.

Table 28 : Trend analysis of N_2O emissions in Waste

Category	1990	2022	Progress (%)	Annual rate (%)	2050 Projection
Solid waste deposited on ground	0,00	0,00	#DIV/0!	#DIV/0!	#DIV/0!
Waste water Treatment	0,32	0,32	0,2%	0,0%	0,32
Waste incineration	0,00	0,00	-	-	-
Other	0,02	0,06	292,0%	4,7%	0,22
Total	0,33	0,38	14,4%	0,4%	0,43

Source : MEEA/SP-CNDD/IGES,2024

As for the other categories (biological treatment and open burning), their N2O emissions have also increased over the same period, but remain at low levels compared with emissions from the waste water treatment category.

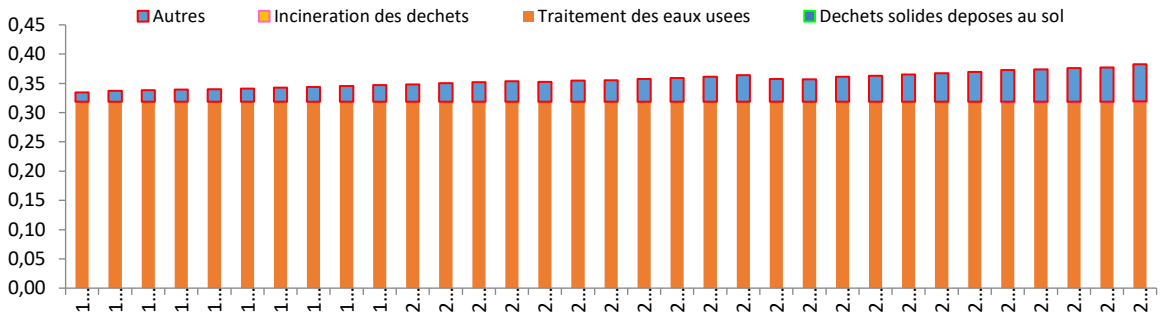

Diagram 76 : Evolution of N_2O emissions in Waste from 1990 to 2022 in Gg.

If the observed trend is maintained, in 2050 waste will emit approximately 0.40 Gg Eq- N_2O.

CHAPTER 2 : INFORMATION NEEDED TO MONITOR PROGRESS IN IMPLEMENTING AND ACHIEVING NATIONALLY DETERMINED CONTRIBUTIONS UNDER ARTICLE 4 OF THE PARIS AGREEMENT

2.1 Institutional arrangements for NDC monitoring

For its NDC implementation monitoring, adoption of a national Measurement, Reporting and Verification (MRV) system has provided the country with an inclusive and sustainable institutional and legal framework, as well as an effective and functional system for collecting and capitalizing data to monitor progress as part of NDC implementation.

At legal level, the decree establishing the national system of measurement, reporting and verification for climate transparency has enabled the country to have a national framework for climate transparency.

In addition, adoption of decrees on the creation, atttribution, composition, organization and operation of National Climate Change Committee (CNACC) and the Single Concertation Framework for Environmental Conventions (CCUC) have strengthened the legal framework facilitating the monitoring of progress made by stakeholders in implementing NDC. The CNACC is a forum for consultation, facilitation and reflection on issues of national interest related to climate change.

Burkina Faso's Vision 2050 for long-term low-emission development strategies (LT-LEDS), which is the national carbon neutrality benchmark currently being adopted, will strengthen the legal framework for monitoring NDC progress.

At the institutional level, national MRV system is anchored at the level of the Ministry in charge of the environment. The adoption of the national MRV has resulted in the establishment of the following bodies: National coordination, sectoral technical committees and the National Reporting Committee.

National MRV system operation is based on two mechanisms (MRV/BF platform and carbon register) fed by activity, support, adaptation and emission factors data collected from the data holding agencies. MRV/BF platform is a digital tool for collecting, archiving and disseminating data and information on GHG emissions and removals, support received, and climate change adaptation and mitigation efforts. MRV/BF platform is managed by the National coordination, which has created an access account for each focal point. As for the national carbon register, it is a tool for registering and monitoring carbon initiatives in Burkina Faso. The Ministry responsible for climate change monitors the carbon register (Diagram 77).

The mapping below provides an overview of different institutions involved in Burkina Faso's MRV system. This system is the starting point for an inclusive consultation of partners to verify the accuracy of the information and proceed, possibly to update it.

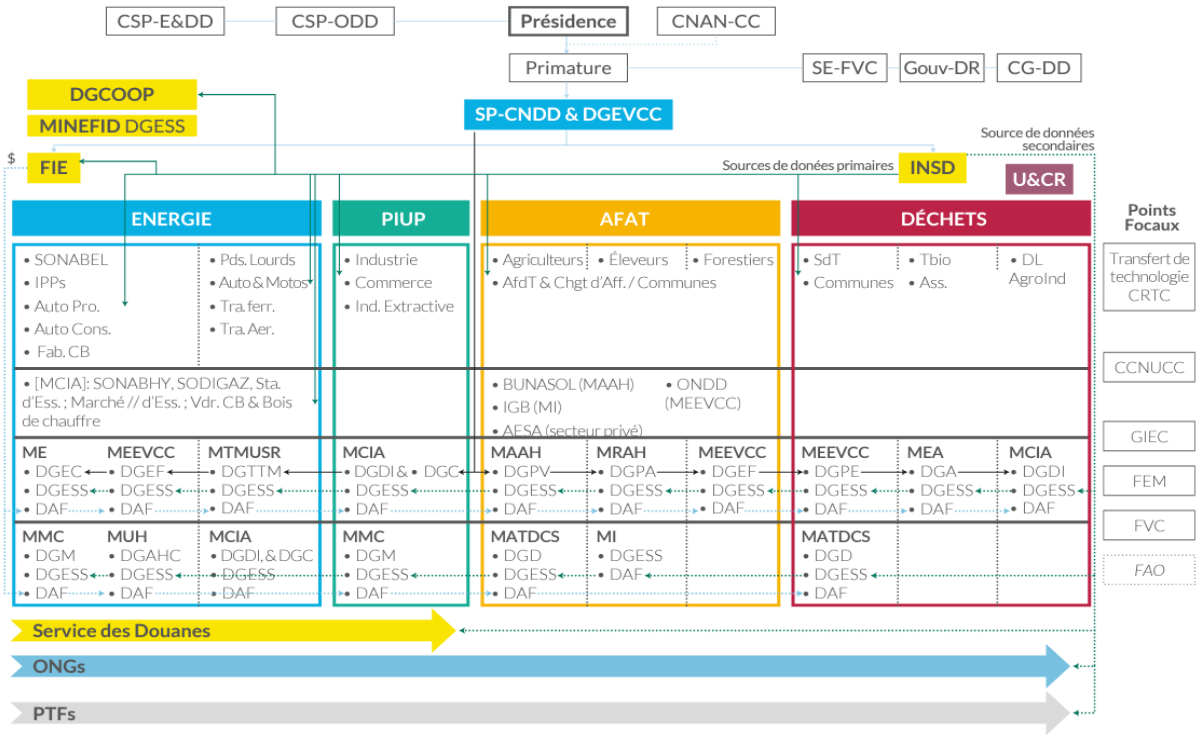

Diagram 77 : Diagram of Burkina Faso MRV platform system

Source: MRV Platform

2.2 Description of the contribution determined at national level under Article 4 of the Paris Agreement, including updates

Le Burkina Faso made a commitment alongside other UNFCCC Parties to reduce GHG emissions by submitting its Nationally Determined Expected Contribution (NDEF) on October 23, 2015. After the ratification of the Paris Climate Agreement, the NDEF subsequently became its nationally determined contribution (NDC). This first NDC set GHG emission reduction targets by 2030 to 21,574.63 Gg Eq-CO_2, or 18.2% (5.58% in unconditional scenario and 11.9% in conditional scenario) compared to the reference scenario (Business as usual) for mitigation actions and of 43,707 Gg Eq-CO_2, or 36.95% through the implementation of adaptation actions.

The NDC assessment in 2020 showed a level of 91.37% achievement of commitments for the period 2015-2020 for unconditional scenario and 24.36% for conditional scenario. With regard to adaptation actions, the country achieved 89% level of achievement in 2020.

Following its first NDC assessment, the country began revising its NDC process in accordance with requirements of Article 4 of the Paris Agreement. This review was participatory and inclusive with involvement of public actors, local authorities, the private sector, associations and NGOs at all levels as well as technical and financial partners.

Burkina Faso, as part of its new ambitions, has a GHG emission reduction target of 29.42% compared to the Business as usual (BaU) scenario by 2030 as part of its mitigation actions. This commitment is 19.60% for unconditional scenario and 9.82% for conditional scenario. Compared to its first NDC, the country has increased its ambitions by 11.22%. In addition, the country has

taken an option of strengthening its adaptation and resilience through the implementation of actions of which reduction ambition is 30.76%, i.e. 20.67% unconditionally and 10.08% conditionally by 2030 compared with BaU.

For its NDC implementation, financial needs amount to USD 4,124,231,753 including USD 1,596,368,476 already acquired (unconditional) and USD 2,527,863,277 to be sought (conditional). The amount to be sought for gender-specific actions is USD 1,379,891.

The following Table 29 provides emission targets for the unconditional and conditional scenarios, by sector, and cost by sector, respectively.

Table 29 : Sector contribution to reducing GHG emissions

Sectors	Scenarios	GHG emission reductions compared to BAU					
		2025		2030		2050	
		Gg Eq-CO_2	**%**	**Gg** Eq-CO_2	**%**	**Gg** Eq-CO_2	**%**
	BAU	92511,38	-	107522,71	-	185814,84	-
AFAT :	Unconditional scenario :	7527,3	8,14	15054,6	14	13166,8	7,09
	Conditional scenario :	2569,5	2,78	5139	4,78	17986,4	9,68
Energy :	Unconditional scenario (2030):	1228,66	1,33	2457,34	2,29	7371,98	3,97
	Conditional scenario (2030):	1964,05	2,12	3928,11	3,65	11784,31	6,34
Transportation	Unconditional scenario :	1210	1,31	3563	3,31	8265	4,45
	Conditional scenario :	267	0,29	876	0,81	4153	2,24
Waste:	Unconditional scenario :	0	0	0	0	0	0
	Conditional scenario :	262	0,28	614,80	0,57	1246,95	0,67
Total		15028,51	**16,25**	31632,85	**29,42**	63974,44	**34,43**

Source: NDC Report (2021)

The target to reduce GHG emissions through the implementation of adaptation actions is 30.76% compared to BaU.

Table 30 shows that the AFAT sector appears to be a sector with high GHG emission reduction potential with 14% for its unconditional scenario and 4.78% for its conditional scenario. Waste appears as the one with low potential with only 0.57% in a conditional scenario.

Table 30 : Synthesis of GHG reduction potential (Gg-Eq-CO_2) of adaptation actions compared to BAU scenario

Scenarios	Reduction of GHG emissions compared to BAU					
	2025		2030		2050	
	Gg Eq-CO_2	**%**	**Gg** Eq-CO_2	**%**	**Gg** Eq-CO_2	**%**
BAU	92511,38	-	107522,71	-	185814,84	-
Unconditional scenario :	4802,69	5,19	22230,08	20,67	33310,44	17,93
Conditional scenario :	5525,80	5,97	10842,62	10,08	31337,96	16,87
Total	**10328,49**	**11,16**	**33072,70**	**30,76**	**64648,40**	**34,79**

Source: NDC Report (2021)

Table 31 : Summary of NDC implementation costs

Options	Sectors	Status of NDC adaptation actions (in USD)		
		Unconditional scenario :	**Conditional scenario :**	**Total**
Mitigation	AFAT	15 468 000	21 500 000	36 968 000
	Energy :	430 740 149	577 198 594	1 007 938 743
	Transportation	2 910 317	120 743 529	123 653 846
	Waste:	-	166 228 399	166 228 399
Mitigation Sub-total		**449 118 465**	**885 670 522**	**1 334 788 987**
Adaptation	Environment	230 365 419	574 047 048	804 412 467
	Agriculture	735 477 480	366 705 424	1 102 182 904
	Animal resources	65 159 352	137 025 589	202 184 941
	Infrastructures	65 546 760	-	65 546 760
	Habitat	24 000 000	286 618 052	310 618 052
	Transport	264 000	-	264 000
	Water and sanitation	26 437 000	276 416 751	302 853 751
Adaptation sub-total		**1 147 250 011**	**1 640 812 864**	**2 788 062 875**
Total 1		**1 596 368 476**	**2 526 483 386**	**4 122 851 862**
Gender			1 379 891	1 379 891
Total 2			**1 379 891**	**1 379 891**
NDC Cost		**1 596 368 476**	**2 527 863 277**	**4 124 231 753**

Source: NDC Report (2021)

2.3 Information needed to monitor progress in implementing and achieving nationally determined contributions under Article 4 of the Paris Agreement

2.3.1 Monitoring and assessment mechanism

Monitoring the progress in NDC mitigation and adaptation actions focuses on national MRV system implementation in agriculture, forestry, other land use, waste, energy and industrial processes.

As part of the Paris Agreement implementation, Burkina Faso has developed a specific methodology for its NDC accounting, based on solid data and recognized approaches. This methodological approach is based on the following points:

- *Greenhouse Gas (GHG) Inventory*: Accounting begins with a national GHG emissions inventory development. Burkina Faso generally uses the Intergovernmental Panel on Climate Change (IPCC) guidelines to measure emissions in different sectors (energy, agriculture, forestry, waste, etc.);
- *Reference year*: Burkina Faso has set 2020, the year ending its first NDC, as a reference year to compare current and future emission levels with those of a given reference year, generally based on available and reliable data;
- *Considered key areas:* AFAT, ENERGY, TRANSPORT AND WASTE. The IPPU sector was not included for deficiencies in emission reduction measures in this sector. The government's policy option to modernize the transport sector to meet the challenge of reducing emissions through limiting the age at which vehicles can be imported, public transport development and vehicle fleet renewal prevailed the choice to consider the transport sector as a specific sector;
- *Business as usual*: Burkina Faso has developed a baseline scenario that projects future emissions without intervention, based on current and projected trends in economic and demographic development;
- *Emission reduction scenario*: NDC commitments are then defined against this baseline scenario, with specific measures to reduce emissions in each key sector. Different emission projections have been made relying on information from the most recent inventory;
- *Specific sectoral approaches*: As part of its second NDC development, Burkina Faso applied an approach to develop sectoral NDCs that served as the basis for overall NDC. In addition to emission reductions, Burkina Faso's NDC includes measures to adapt to climate change impacts, especially for vulnerable sectors, as well as gender and social inclusion.
- Burkina Faso identified specific technologies (renewable energy, sustainable agricultural practices, etc.) to achieve emission reduction targets.

To effectively measure the impact of its actions, Burkina Faso has defined a set of relevant indicators in its NDC, designed to track reductions in greenhouse gas emissions and adaptation to climate change.

Indicators identification and definition were based on a documentation analysis as part of NDC. In Burkina Faso's NDC document, indicators have been identified by sector and sub-sector relating to their links with Sustainable Development Goals (SDGs). This does not make it easy to track indicators according to measures and technologies for the sectors in question.

Table 32 : Indicators selected for NDC monitoring

NDC indicators	Unit	Indicator description	Value and reference year	Target value 2030
Percentage reduction in GHG emissions by 2030	%	It measures the target rate of GHG emission reduction in 2030	8.2% in 2020	29.42%

Table 33 : NDC indicators by sector

Global indicators:	Unit	Indicator description	Scenario	2025	2030	2050
Reduced amount of GHGs in Energy including transport	Gg	It measures the total volume of GHGs that are reduced or avoided through actions in Energy	Conditional	2438,66	6020,34	15636,98
			Unconditional	2231,05	4804,11	15937,31
			Overall scenario	4669,71	10824,45	31574,29
			Unconditional	267	876	4153
			Overall scenario	1477	4439	12418
Quantity of Eq-CO_2 sequestered in AFAT sector	Gg	Measures the potential for sequestration or avoidance of GHGs by proposed actions in the AFAT sector	Conditional	7527,3	15054,6	13166,8
			Unconditional	2569,5	5139	17986,4
			Overall scenario	10096,8	20193,6	31153,2
Quantity of Eq-CO_2 sequestered in Waste	Gg	This indicator shows the amount of GHGs that are avoided	Conditional	0	0	0
			Unconditional	262	614,8	1246,95
			Overall scenario	262	614,8	1246,95

Burkina Faso has used the GACMO (Greenhouse Gas Abatement Cost Model) tool to monitor its NDC indicators and determine emissions and removals. GACMO is a tool used to assess costs of mitigating greenhouse gas (GHG) emissions. It allows countries, companies or institutions to model different emission reduction strategies and analyze costs and benefits. Developed by the United Nations Environment Programme (UNEP), GACMO helps decision makers identify cost-effective mitigation measures while taking into account economic and environmental impacts. Input data are data from the latest national GHG inventory and data collected on the latest information from the

indicators of actions listed in the NDC from NDC focal points. Table 34 below gives the country's emissions and removals result from the GACMO tool.

Table 34 : Emissions and removals of the country from GACMO

CO_2 emissions: Gg-Eq-CO_2 in 2030	BAU	Reduction	New total
Power plant	15 145	989	14 156
Industry	62 014	77	61 937
Transportation	5 999	679	5 319
Households	19 163	35	19 128
Services	11 982	6	11 976
Agriculture & fishery	71 723	0	71 723
Forestry	-64 020	587	-64 607
Discharge	16 880	1	16 879
Total	**138 886**	**2 374**	**136 511**

By 2030, GHG emissions are projected at 138,886 Gg Eq-CO_2 according to trend scenario. The implementation of mitigation actions will result in a reduction of 2,374 Gg Eq-CO_2 over the NDC time horizon. Net emissions balance will be 136,511 Gg Eq-CO_2 in 2030 according to GACMO tool. The nature of indicators listed in the NDC did not allow a good evaluation through the GACMO tool.

2.4 Overview of NDC actions, policies and measures

Relevant policies and strategies aimed at reducing greenhouse gas emissions and supporting NDC achievement have been mapped in line with the orientations and guidelines for monitoring progress in the NDC implementation in the different sectors such as Energy, Transport, AFAT and Waste.

2.4.1 Brief descriptions of mitigation policies and measures in NDC sectors

Energy

Burkina Faso energy has undergone major reforms over the past decade, with a view to placing particular emphasis on increasing the share of renewable energy in the energy mix and promoting energy efficiency.

- **Mapping mitigation policies and measures**

From the mapping of policies and strategies in energy, policies selected for analysis and that have a direct implication on emissions/removals in the context of NDC operationalization are among others: The National Rural electrification Strategy (SNER), National renewable Energy Action Plan (PANER), the National Energy efficiency Action Plan (PANEE), the Sustainable Energy for all Action Agenda (SE4ALL) and the sectoral energy policy.

- **Choice of policy or mitigation measures to be assessed in energy**

Among the energy sector mitigation policies and measures mapped, POSEN appears to be the most appropriate policy in terms of availability of quantitative information on GHG emission reduction potential, hence its choice for assessment. Indeed, POSEN implementation will make it possible to

avoid about 220,100 tons of CO_2-Eq per year (Table 35). The POSEN is still being implemented through the National Energy Strategy with the advent of sectoral policies.

Table 35 : Choice of mitigation policy

Required Information	
Policy title/Name	Sectoral energy policy (POSEN) 2014-2025
Policy/action Type	Promoting renewable energies and energy efficiency
Description of specific interventions	Regular, secure, sustainable and low-cost supply of electrical energy (construction of electrical interconnections, establishment of an interconnected National Network, sources of electrical energy production diversification, strengthening of local production capacities) ; Promotion of energy savings (electric energy, hydrocarbons and renewable energies), renewable energies, energy consumption rationalization in order to reduce greenhouse gas emissions.
Objectives	Make energy accessible to all by promoting the sustainable use of our endogenous resources and taking advantage of opportunities in sub-regional cooperation
Type of instrument (regulatory, economic or other)	Regulations
Status (planned, adopted or implemented)	Implemented
Affected area(s)	Energy :
Gases affected	$CO_{2, HFC, CH4}$
Implementation starting year	2014.
Executing Entities	Ministry in charge of Energy, ANEREE, ABER SONABEL, SONABHY, Ministries in charge of Environment, Finance, Trade, Scientific Research, Housing, Infrastructure.
Costs	Not defined
Non-GHG mitigation benefits	Socio-economic development of sectors, improvement populations' living conditions, environment preservation.
Related policies or actions	National renewable Energy Action Plan, National Energy efficiency Action Plan, National Energy sector Strategy, National Rural electrification Strategy.
Optional Information	
Expected level of mitigation to be achieved and/or target level of other indicators (if applicable)	220,100 tonnes of CO_2 per year
Title of implementing legislation, rules or other founding documents	Decree No. 2000-628/PRES /PM/MCE of December 30, 2000 adopting the Energy sector Development Policy Letter, Law No. 053-2012/AN of December 17, 2012 establishing General Regulation of the electricity Sub-sector in Burkina Faso, Decree No. 2003-089/PRES/PM/MCE of February 19, 2003 establishing, attributions, organization and operation of Electrification Development Fund, Order No. 09-

	018/MCE/MCPEA/MEF of November 20, 2009 establishing the prices of the electricity products produced, imported and distributed in the second electrification (rural electrification), Decree N°2002-146/PRES/PM/MCPEA/MCE of May 3, 2002 regulating the distribution of petroleum products and derivatives in Burkina Faso.
Monitoring, reporting and verification procedures	POSEN has planned a "steering and support" Programme. Implementation of sectoral policy will be coordinated by a Steering Committee (SC). Monitoring policy implementation will focus on the status of implementation of actions based on the associated indicators. For planning and monitoring-evaluation, a monitoring-evaluation system is planned and will facilitate the development of statistical yearbooks, among other things.
Mechanisms for enforcing compliance with standards	POSEN operationalization is done through the implementation of strategies and action plans.
Reference to the relevant guidance document	At the national level, sectoral policy draws its foundations from the National prospective Study "Burkina 2025" and a prospective Study on Energy in Burkina Faso. It is also based on the Accelerated Growth and Sustainable Development Strategy (SCADD) and the five-year 2010-2015 'Programme of the President of Faso, "Building together, an emerging Burkina Faso".
Background/influence of broader policy	Burkina Faso's energy sector, based on endogenous resources and regional cooperation, ensures universal access to modern energy services and reinforces its role as a driving force for sustainable development. This ambition will result in universal access to energy services through the provision of energy to the country at a lower cost, the development of modern energy supply in rural areas, accessible to all population sectors and environment-friendly, as well as the development in the use of renewable energy sources.
Overview of non-GHG effects or related benefits of the policy or action	In addition to the effort to reduce GHG emissions, POSEN implementation will induce energy saving habits in order to improve the energy supply for the benefit of the entire population.
Any other relevant information	Nothing to report

Source: Survey data

Transportation sub-sector

- **Mapping mitigation policies and measures**

The main mitigation policy for the Transport sub-sector is the sectoral policy "Transport, Communication and Habitat Infrastructure (PS-ITCH)" 2018-2027. This policy includes actions aimed at improving the sector contribution to combating the adverse effects of climate change.

- **Choice of policy or mitigation measures to be assessed in Transport sector**

Transport Sub-sector Policy Mapping presents a single policy related to mitigation. This policy shows a potential to reduce GHG emissions through its expected effect in terms of sustainable

management of environment and natural resources, even if it has not been quantitatively assessed for its potential.

Table 36 : Descriptive information on the sectoral policy "Transport, communication and housing infrastructures

Required Information	
Policy title/Name	Descriptive information on the sectoral policy "Transport, communication and housing infrastructures"
Policy/action Type	Development of sustainable and resilient transport equipment and infrastructure.
Description of specific interventions	Development of sustainable and resilient infrastructure and facilities by promoting sustainable urban and rural development. Strengthening transport sector governance by creating an enabling environment for sustainable, low-carbon and climate-resilient modes of transport.
Objectives	Develop sustainable and resilient transport, communication and housing facilities and infrastructures with a view to improving their accessibility to all socio-professional strata.
Type of instrument (regulatory, economic or other)	Regulations
Status (planned, adopted or implemented)	Enacted
Affected area(s)	Transport, communications and housing infrastructures
Gases affected	$CO_{2, HFC}$
Implementation starting year	2018- 2027
Executing Entities	Ministry of territorial Administration and Mobility, Ministry of Infrastructure, Ministry of Housing, Ministry of Digital economy, Ministry of Communication, Ministry of the Environment, Ministry the economy, Partners, private sectors, local authorities.
Costs	Not defined
Related policies or actions	National Communication Policy, sectoral Policy letter of the Ministry of Posts and Information and Communication Technologies, National Housing and Urban Development Policy, Transport sectoral Programme.
Optional Information	
Expected level of mitigation to be achieved and/or target level of other indicators (if applicable)	The policy has not made an assessment of its reduction potential.
Title of implementing legislation, rules or other founding documents	Law N°025-2008/AN of May 06, 2008 establishing the law governing land and maritime transport in Burkina Faso, Law No. 002-2001 / AN of February 8, 2001 on guidance Law on Water Management Law No. 003-2011 of April 5, 2011 on Forestry Code in Burkina Faso;

	Law No. 006-2013 / AN of April 2, 2013 on Environment Code in Burkina Faso Law No. 008-2014 / NA of April 8, 2014 on Sustainable Development Guidance Law; Law No. 017 -2014 / AN of May 20, 2014 prohibiting the production, importation, marketing and distribution of non-biodegradable plastic packaging, law N°013-2010/AN of April 06, 2010 on Burkina Faso Civil Aviation Code.
Monitoring, declaration and verification procedures	Monitoring and evaluation mechanism for sectoral policy implementation of is provided by the SSC. It is responsible for collecting and analyzing data to provide insights into the use of resources, progress in implementing reforms and programmes and achieved results.
Mechanisms for enforcing compliance with standards	PS-ITCH is implemented through strategies and action plans related to its sub-sectors.
Reference to the relevant guidance document.	National prospective Study (ENP) Burkina 2025, National Plan of Planning and Sustainable Development of the Territory (SNADDT), National Sustainable Development Policy (PNDD)
Background/influence of broader policy	ITCH sectoral policy is part of axis 2 operationalization and particularly axis 3 of PNDES. Indeed, axis 3: "Revitalize growth sectors for economy and jobs", strategic objectives 3.4 "develop quality and resilient infrastructure to promote the economy structural transformation" and 3.5 "reverse the trend of environmental degradation and ensure sustainable management of natural and environmental resources" concern ITCH sector. The expected outcomes are: (i) infrastructure quality, reliability and accessibility are improved to facilitate the economy structural transformation and (ii) environment and natural resources are sustainably managed.
Overview of non-GHG effects or policy or action related benefits	Existence of a core network of structuring roads, transit corridors offering several alternatives for opening up the country, the railway network usable on the Ouagadougou Abidjan section, creation of a structure responsible for promoting environmental assessments and integrating environmental assessments into the process of projects and programmes, creation and operationalization of environmental units in ministries and institutions and developers' enthusiasm to integrate environmental assessments into their projects and programmes.
Any other relevant information	Nothing to report

Source: Survey data

AFAT Sector

- **Mapping mitigation policies and measures**

Several policies, national strategies or programmes of global or sectoral scope support development in agriculture, forestry and other land use. These documents guide support and define the connection points with climate change in general and the GHG inventory in particular. These documents include:

- Rural Development Strategy by 2025
- National Green economy Strategy 2018-2027 ;
- Burkina Faso National REDD+ Strategy (SN-REDD+) 2024-2033
- National environmental Strategy (NES) (2024-2028)
- Sectoral Policy "Agro-sylvo-pastoral production (PS- PASP 2018-2027);
- National agroecology strategy (2023 – 2027) ;
- National soil Restoration, Conservation and Recovery Strategy (NRCRS) 2020-2024.

- **Choice of policy or mitigation measures to be assessed in AFAT sector**

From the analysis on the mapping of mitigation policies and measures in AFAT sector, the **National Strategy for soil Restoration, Conservation and Recovery (SNRCRS)** and **Burkina Faso National REDD+ Strategy (SN-REDD+)** seem to be the most appropriate policies in terms of quantitative information availability on their potential to reduce GHG emissions. Indeed, **SNRCRS** and **SN-REDD+** implementation will respectively restore 2,000,000 ha of degraded land and avoid 20.193 million tons Eq-CO_2.

Table 37 : Descriptive information on National REDD+ Strategy

Required Information	
Policy title/Name	National REDD+ Strategy
Policy/action Type	Reducing emissions from deforestation and forest degradation, including sustainable forest management, conservation and enhancement of forest carbon stocks.
Description of specific interventions	Reduction of wood energy consumption and greenhouse gas emissions through promotion of alternative energy sources (98,266 ha of preserved forest), technologies to reduce the consumption of firewood (49,133 ha of preserved forest), creation and/or strengthening of capacity for sequestration of conservation areas in regions and municipalities (736,995 ha).
Policy status	Enacted
Implementation date	2024.
Completion date (if applicable)	2033
Implementing entity/entities	Ministries of environment, agriculture, local authorities, civil society organizations, private sector.
Policy purpose	Reduce deforestation and degradation of forests and other land for green, strong and inclusive growth
Geographical coverage	National

Primary sectors, sub-sectors and emission source/sink targeted categories	Forest management, spatial planning and land security, processing and market access for agro-sylvo-pastoral products,
Targeted greenhouse gases (if applicable)	CO_2
Related policies or actions	Sectoral policy Environment, water and sanitation, sectoral policy Agro-sylvo-pastoral production, national sustainable development policy**,** national rural development strategy, national green economy strategy, national environmental strategy
Optional Information	
Expected mitigation level to be achieved and/or target level for other indicators (if applicable)	The amount of carbon sequestered is expected to be 20.193 million tons by 2031
Title of implementing legislation, rules or other founding documents	Law No. 0034-2009/AN of June 16, 2009 on land tenure regime in Burkina Faso, together with its amendments, Law No. 034-2012/AN on agrarian and land reorganization in Burkina Faso, Law No. 055-2004/AN of December 21, 2004 on General Code of local authorities (CGCT) in Burkina Faso, Law No. 003-2011/AN of April 05, 2011 on Forest Code in Burkina Faso, Law No. 006-2013/AN of April 02, 2013 on Environment Code in Burkina Faso, Law No. 036-2015 of June 26, 2015 on Mining Code.
Monitoring, reporting and verification procedures	Monitoring progress of REDD+ actions required the design of some tools such as National Forest Monitoring System, REDD+ Project Registry, safeguards Information System, and Non-Carbon benefits Information System. National REDD+ strategy implementation monitoring and evaluation will be carried out by the Measurement, Reporting, Verification and Monitoring-Evaluation (MNV/SE) unit. Data is collected from the various stakeholders, processed and analyzed. Finally, reports are produced, validated and adopted by CN-REDD+ and submitted to UNFCCC.
Mechanisms for enforcing compliance with standards	SN-REDD+ will be implemented through rolling three-year action plans
Reference to relevant guidance document	SN REDD+ is based on ENP Burkina 2025, SNADDT, PS-EEA, PS-PASP, PNDD,
Broader policy background/influence	SN REDD+, it is an innovative way to boost sustainable development through reconciliation of economic development needs in rural areas and populations' resilience. REDD+ therefore pursues the triple winner "adaptation, mitigation and fight against poverty"
Overview of non-GHG effects or policy or action related benefits	SN REDD+ will help reduce incidence of rural poverty from 44% to 6% in 2018 to less than 35% in 2031 It will allow for diversification of food sources, hydro-agricultural development, and reduce post-harvest agricultural losses, improve animal health and develop value chains and product competitiveness.
Any other relevant information	Nothing to report

Source: Survey data

Table 38 : Descriptive information on National soil Restoration, Conservation and Recovery Strategy (NRCRS)

Informations requises	
Policy title	National soil Restoration, Conservation and Recovery Strategy (NRCRS) 2020-2024.
Policy/action Type	Agro-sylvo-pastoral production
Description of specific interventions	It aims, among others at the operationalization of CES/DRS actions on national territory by formulating and financing projects and programmes for soil recovery and sustainable management with a view to sustained growth of productive activities in rural areas
Policy status	Enacted
Implementation date	2020.
Completion date (if applicable)	2024.
Implementing entity/entities	MARAH, MEEA, Research, and MEF, MATM
Policy purpose	The overall objective of the SNRCRS is to reduce/reverse soil degradation trend in order to sustainably increase agricultural production
Geographical coverage	National
Primary sectors, sub-sectors and emission source/sink targeted categories	Agriculture, forestry and fishery
Targeted greenhouse gases (if applicable)	CO_2, NO_2, CH_4
Costs	Not defined
Related policies or actions	National Rural sector programme (NRSP) II 2016-2020, sectoral Policy Agro-sylvo-pastoral production (PS-PASP) 2018-2027, National Agroecology Strategy 2023-2027, Strategic Framework for Investment in Sustainable Land Management (CSI-SLM), National environmental Strategy (NES), National Climate Change adaptation Plan (NAP) 2015-2050.
Optional Information	
Expected mitigation level to be achieved and/or target level for other indicators (if applicable)	There is no specification on GHG emission reduction level but a forecast 2,000,000 Ha of degraded land recovery.
Title of implementing legislation, rules or other founding documents	Existence of Law No. 070-2015/CNT of October 22, 2015 on law of agro-sylvo-pastoral, fisheries and wildlife orientation in Burkina Faso, Law No. 0034-2009/AN of June 16, 2009 on land tenure regime in Burkina Faso, together with its amendments, Law No. 034-2012/AN on agrarian and land reorganization in Burkina Faso, Law No. 055-2004/AN of December 21, 2004 on General Code of local Authorities (CGCT) in Burkina Faso, Law No. 008-2014/AN of April 08, 2014 on Orientation Law on Sustainable Development in Burkina Faso, Law No. 024-2018/AN of July 27, 2018 on the Orientation Law on Burkina Faso Territory Planning and Sustainable Development.
Monitoring, reporting and verification procedures	The SNCRS monitoring-evaluation mechanism is provided by the CNP technical secretariat. It is responsible for collecting and analyzing data to provide insights into the use of resources, progress

	achieved in implementing actions and achieved results. As part of the implementation of the action plan, a consensual monitoring-evaluation manual will be developed.
Mechanisms for enforcing compliance with standards	SNRCRS will be implemented through rolling three-year action plans
Reference to relevant guidance document	National prospective Study (ENP) Burkina 2025, national plan for land use and sustainable development, sectoral policy on "Environment, water and Sanitation", sectoral policy agro-sylvo-pastoral production, national sustainable development policy.
Broader policy background/influence	Improvement in productivity in degraded land. Sustainable increased in agricultural production Reversal in soil degradation rate.
Overview of non-GHG effects or policy/action related benefits	One of SNRCRS ambitions is to develop financial products within MFIs and to increase by at least 5% credit accessibility rate for the benefit of ETUC/DRS. It also provides opportunities for capacity building for the benefit of implementing actors
Any other relevant information	Nothing to report

Source: Survey data

Waste

- **Mapping mitigation policies and measures**

Several policies, national strategies or programmes of global or sectoral scope support development in Waste. These documents guide support and define connection points with climate change in general and GHG inventory in particular. These include:

- National waste water and excreta sanitation programme (PN-AEUE, 2016-2030) ;
- Environment, Water and Sanitation (PS-EEA) sector policy (2018-2027);
- National Plastic waste Management Strategy (NPWMS) 2023 – 2027.

- **Choice of policy or mitigation measures to be assessed in Waste**

From the analysis on mapping of policies and strategies, **the sectoral policy "Environment, water and Sanitation (PS-EEA)"** seems to be the appropriate planning document with significant GHG emission reduction impacts of 24,000,000 T Eq-CO_2 in 2027 for our analysis.
The shortcomings in waste management are a source of much nuisance that deteriorates the life quality of affected populations through quality degradation of environment and living conditions.

With its overall objective of ensuring access to water, a healthy living environment and strengthening environmental governance and sustainable development with a view to improving the economic and social conditions of populations, the sectoral policy "Environment, Water and Sanitation (PS-EEA)" proposes opportunities to reduce GHG emissions, hence its choice to reduce emissions in the waste.

Table 39 : Descriptive information on sectoral policy "Environment, Water and Sanitation"

Required Information	
Policy title	"Environment, Water and Sanitation" (PS-EEA) sector policy (PS-EEA).
Policy/action Type	Water supply, sustainable access to a healthy living environment and a quality environment.
Description of specific interventions.	The policy is built on three (03) major areas of intervention: (I) sustainable environmental management, (ii) water mobilization and management, and (iii) sanitation and improvement of living environment. It proposes sustainable access for all to water resources, a healthy living environment and a quality environment. The policy aims to protect banks to 100% by 2027, increase the percentage of municipalities with a functional solid waste management system to 60% by 2027, increase the cumulative area of green reforested areas in urban municipalities to 225 ha by 2027 and transform 2000 villages into ecovillages.
Policy status	Enacted
Implementation date	2018.
Completion date (if applicable).	2027.
Implementing entity/entities.	Ministry of Environment, Ministry of Urban Planning and Housing, Ministry of Infrastructure, Ministry in economy, Ministry of territorial Administration and local authorities.
Policy purpose	Ensure access to water, a healthy living environment and strengthen environmental governance and sustainable development with a view to improving the populations' economic and social conditions.
Geographical coverage	National
Primary sectors, sub-sectors and emission source/sink targeted categories	Water resource mobilization, urban forestry and waste management and environmental governance.
Targeted greenhouse gases (if applicable)	$CO_{2, CH4, N20, HFC}$
Related policies or actions.	National environmental Strategy, National Sustainable Development Policy**,** REDD+ Strategy, PS-PASP, NPWMS, SDR,
Optional Information	
Expected level of mitigation to be achieved and/or target level of other indicators (if applicable)	The amount of carbon sequestered is expected to be 24,000 million tons by 2027
Title of implementing legislation, rules or other founding documents	Law No. 002-2001/AN of February 08, 2001 on Orientation Law on water Management in Burkina Faso, Law No. 022-2005/AN of May 24, 2005 on public Hygiene Code in Burkina Faso, Law No. 008-2014/AN of April 08, 2014 on Orientation Law on Sustainable Development in Burkina Faso, Law No. 003-2011/AN of April 5, 2011 on Forestry Code in Burkina Faso;

	Law No. 006-2013/AN of April 2, 2013 on Environmental Code in Burkina Faso; Law No. 017-2014/AN of May 20, 2014 prohibiting production, import, marketing and distribution of non-biodegradable plastic packaging and bags; Law No. 036-2015/CNT of June 26, 2015 establishing Mining Code in Burkina Faso; Law No. 016-2015/CNT amending Law No. 055-2004/AN of December 21, 2004 establishing general code of local authorities in Burkina Faso. ,
Monitoring, declaration and verification procedures	SP-EEA defined the sectoral dialogue Framework "Environment, water and Sanitation" (CSD-EEA) and sectoral review of CSD-EEA to monitor progress achieved in implementing actions. Sectoral review takes stock of physical and financial achievements made in programmes, assesses the achievement of set targets and makes recommendations. A planning, monitoring and evaluation system based on a functional and efficient statistical information system allows for data to collection and analysis to provide evidence of assessment.
Mechanisms for enforcing compliance with standards	The policy will be implemented through strategies and action plans.
Reference to relevant policy document	National prospective Study (ENP) Burkina 2025, National plan for Land Use and Sustainable Development (SNADDT), National Sustainable Development Policy (PNDD)
Broader policy background/influence	In a holistic view of environmental management, issues related to climate change, eroding biodiversity, sustainable production and consumption patterns, land degradation, abusive and uncontrolled use of chemicals are internalized in the development process for inclusive green growth. Thus, all planning frameworks should systematically take these aspects into account and budget for them at design stage.
Overview of non-GHG effects or policy/action related benefits	Creation of 1.2 million decent green jobs, promotion of environmental education in primary and secondary schools, operational water policing, and water financial contribution recovery (CFE).
Any other relevant information	Nothing to report

2.5 Summary on greenhouse gas emissions and removals

National GHG emissions between 1990 and 2022, the period covered by the Fourth National Communication on Climate Change (NC4), are described in 1.3.1.2.2.

2.6 Projections of GHG emissions and removals

To determine projections and removals, the country uses results of the latest inventory, which considers its reduction efforts in its first NDC implementation (2016-2020). Emissions and removals with measures consider the ambition set by the country in its revised NDC (2021-2025). Emissions with additional measures are based on the country low carbon strategy that is pending submission.

The Diagram 78 below illustrates the country's emissions without measures up to 2025, and emission reductions due to NDC measures are expected to increase emissions from 75724.22 Gg Eq-CO_2 to 60695.71 Gg Eq-CO_2 in 2025 and from 85008.41 Gg Eq-CO_2 to 53375.56 Gg Eq-CO_2 in 2030. With the country's vision of low-carbon development, net zero will be reached in 2050 under low ambition scenario.

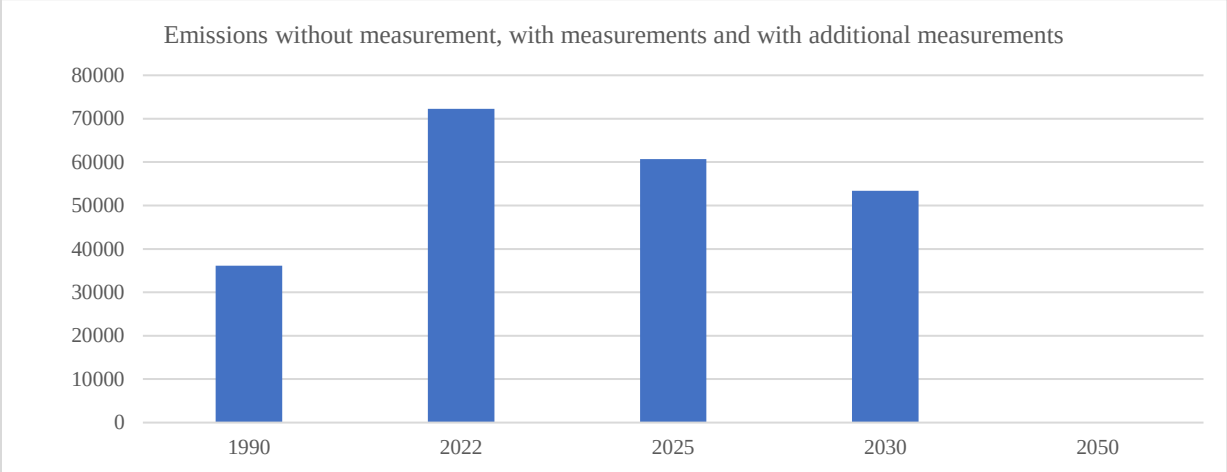

Diagram 78 : Emissions without measurement, with measurements and with additional measurements

As part of its NDC implementation, the country expects a reduction of 10,328.49 Gg Eq-CO_2 in 2025, from 33,072.70 in 2030. This corresponds to the scenario with measure.

The country has strengthened its commitments by developing its long-term low-carbon and climate resilient development strategy. This strategy outlines the country's decarbonizing economy trajectory until 2050. Net Zero is reached in 2050 according to low-carbon scenario.

The following Diagram 79 shows the country's emissions and removals with the three scenarios (without measurement, with measurement and with additional measurement).

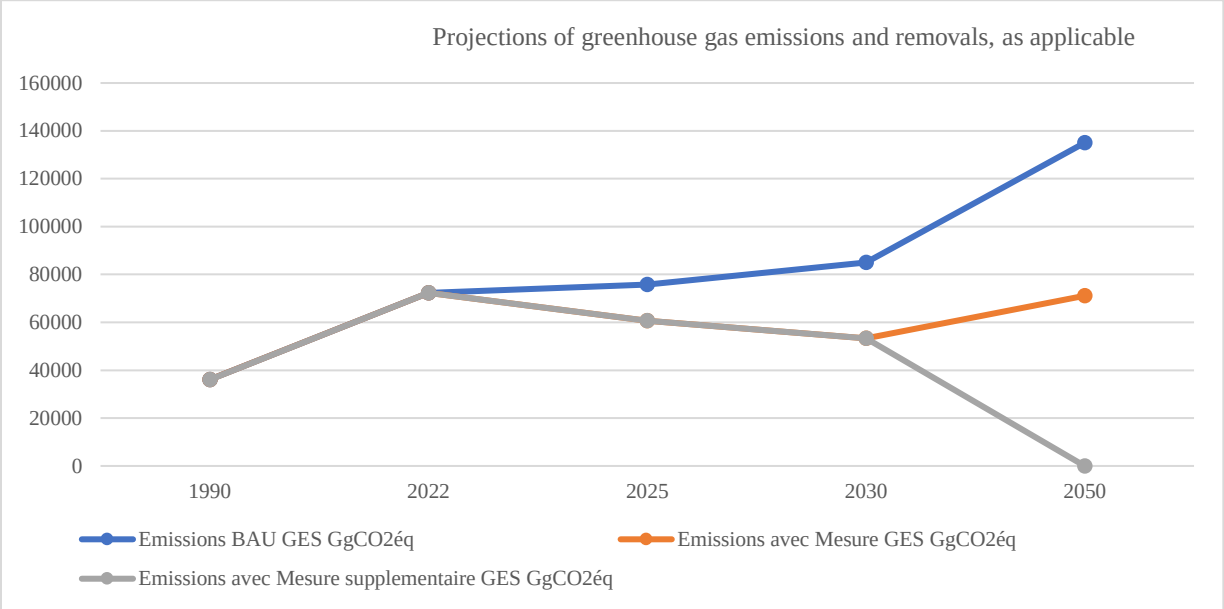

Diagram 79 : Emission and removal with the three scenarios

CHAPTER 3: INFORMATION ON CLIMATE CHANGE IMPACTS AND ADAPTATION UNDER ARTICLE 7 OF THE PARIS AGREEMENT

3.1 National circumstances, institutional arrangements and legal frameworks

3.1.1 National circumstances

Direct manifestations of climate change effects in Burkina Faso are already visible. From rising temperatures to rainfall variability via unpredictable extreme events such as heat waves, floods and pockets of drought; climate change effects are being felt across the country at all scales. Key sectors of the economy, many of which are highly climate-sensitive, have been negatively impacted.

In the communities of the country, it is increasingly obvious that changing climatic conditions affect socio-economic and cultural life of local communities. People's cultural lifestyles and economic livelihoods are disrupted, as many locations face risks of extreme weather events. As impacts continue to manifest themselves crescendo, but differently according to locations, it has also become obvious that Burkina Faso needs more focused and pragmatic approaches to address current and future climate change impacts. Some of these efforts have been undertaken by government or non-state actors, and they are all aimed at strengthening adaptive capacity to protect and preserve lives and well-being of people and property.

Burkina Faso's NAP process was timely launched, as the government tries to coordinate all adaptation planning activities by providing the enabling environment and coordination required for adaptation planning and implementation. To do so, the country has developed and is implementing instruments such as National Climate Change Strategy (NCCS), NDC and regional adaptation plans. The implementation of these and many other instruments should strengthen current efforts in support of Burkina Faso's national sustainable development policy.

Climate change is having a significant impact on Burkina Faso's infrastructure sector due to recurrence of extreme weather events (floods, droughts, heat waves). Increased rainfall causes flooding of transportation infrastructure such as roads and bridges, while rising temperatures cause faster cracks and degradation of roads and protective structures. Essential to social, economic and agricultural livelihoods, transportation infrastructure is particularly vulnerable to extreme weather events. Roads allow communities to market their products and access health care, education, credit and other services, especially in rural and remote areas where most of the country's population lives. Taking into account these climatic risks on infrastructure is therefore essential for the country socio-economic development.

3.1.2 Climate analysis

Burkina Faso is characterized by a Sudanese tropical climate regime with two alternating seasons: A dry season (October to May) and a wet season (June to September). According to average annual rainfall recorded and the thermal regime, the country is divided into three climatic zones: Sahelian, Sudano-Sahelian and Sudanian. The geographical boundaries of these areas evolve according to migration of isohyets. (Diagram 80).

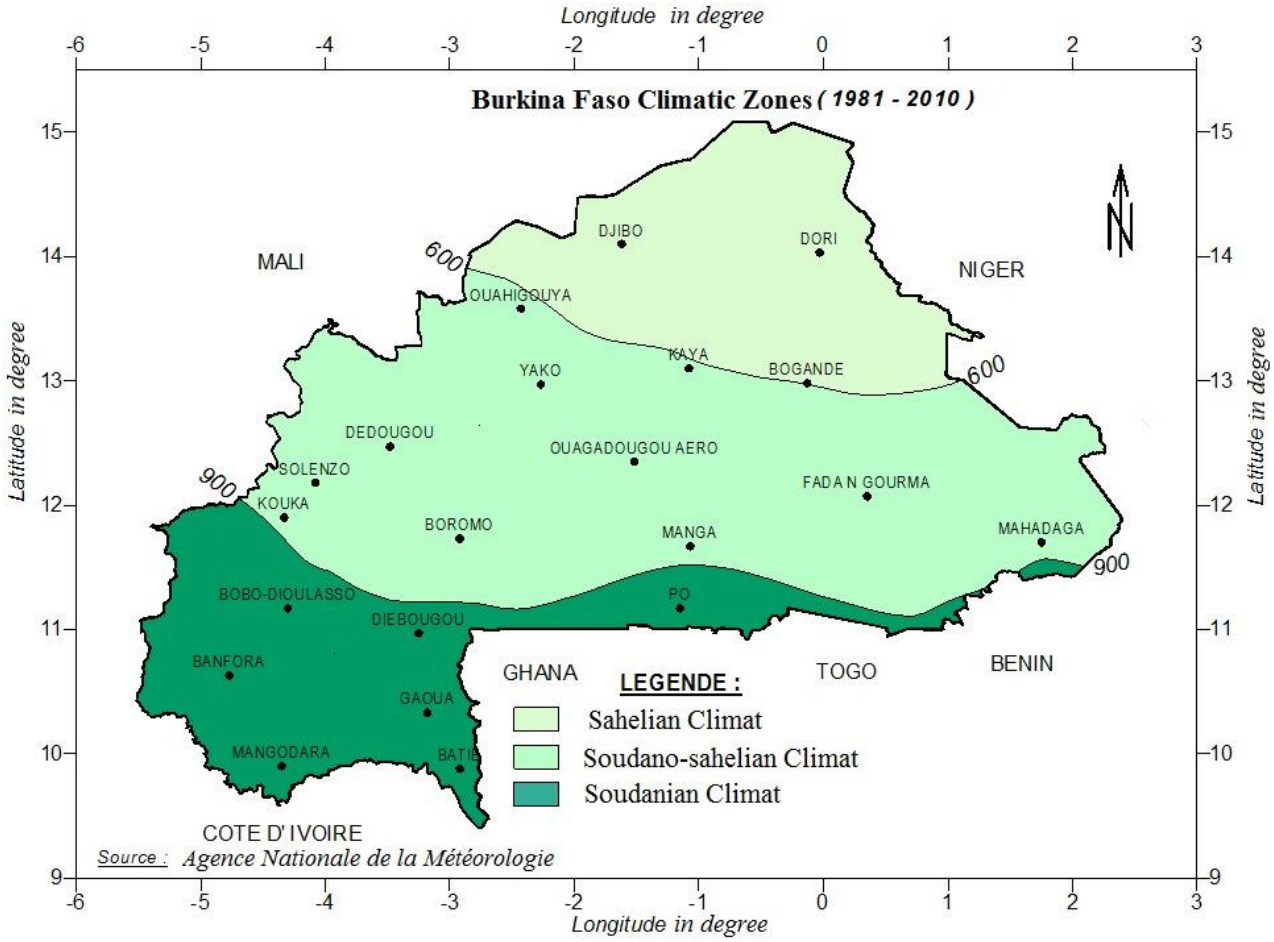

Diagram 80 : Evolution of climate zones in Burkina Faso between 1981 and 2010
Source: ANAM 2017

Historical climate data from Burkina Faso indicate an increase in average temperatures and a decrease in average annual precipitation in the three climatic zones. On average, annual temperature has increased by 0.2 to 0.3°C per decade since 1981 (ANAM, 2017). This increase goes crescendo from South to North. Average annual precipitation ranges from 439.4 mm in the North to 1667.2 mm in the South (ANAM 2022).

In terms of future climate, about 80% of the models predict an increase of at least 5% in precipitation in Burkina Faso in all scenarios and periods considered. However, the water amount that will fall should be neutralized by evapotranspiration which should reach 20%. Heavy rainfall frequency and intensity is expected to increase, resulting in flooding and soil erosion (Seneviratne et al. 2021). Average air temperature is expected to reach 1.5˚C in the near future and 4.2˚C in the far future and this could be detrimental to agricultural production when they occur during the flowering period of crops (MEEA, 2024b). This situation requires Burkina Faso to carefully plan its adaptation to major climate risks through its integration into all development frameworks.

3.1.3 Climatic disasters recorded in Burkina Faso

Every year, Burkina Faso is plagued by disasters of climatic origin that continue to increase hampering its socio-economic development. To this end, the country is ranked 34th out of 181 countries in terms of exposure, vulnerability and sensitivity to natural disasters, particularly droughts and floods (World Bank, 2023). Diagram 81 data shows evolution of climatic disasters recorded by Burkina Faso and economic losses generated from 1980 to 2020.

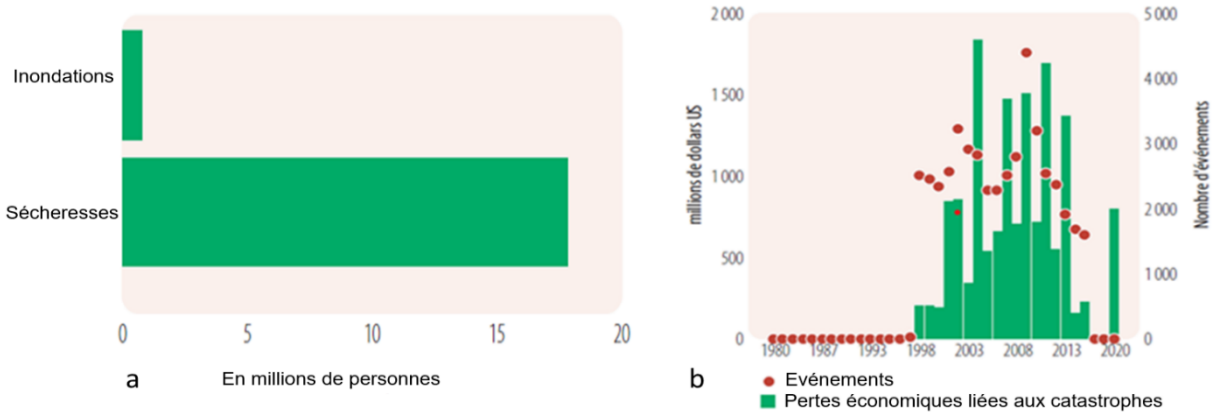

Diagram 81 : a) Number of people affected by disasters (Burkina Faso, 1970–2020); (b) Economic losses and number of events in Burkina Faso

Source: WB, CREC / EM-DAT

Between 2000 and 2020, natural disasters caused economic losses of USD 14.5 billion (Diagram 81). Frequency of disasters has been increasing since 2000. Indeed, between 1980 and 2000, the country was hit each year by one or two natural disasters (27 events in 20 years). Between 2000 and 2020, the number of disasters reached 65 events, with a peak of 7 events in 2010. Drought caused economic losses amounting to USD 9.6 billion, and floods added USD 1.2 billion. In addition to floods and droughts, Burkina Faso is exposed to storms, insect infestations and epidemics, which have caused losses of USD 3.7 billion. In 2004, GDP growth fell to 4.6%, down from 8% in 2003, partly due to locust invasion and drought (World Bank, 2023).

As for the years 2022, 2023 and 2024, four regions including the Central Plateau, Centre-West, Boucle du Mouhoun and the Hauts Bassins were affected by the floods. There were 6,903 victims, 5509 tons of food destroyed, 5,923 animals taken away and 149 houses destroyed.

Also, since 2022, part of the national road N°1 is regularly flooded during the rainy season, resulting in temporary cessation of traffic between the country two major cities. In addition, high winds caused damage in three regions, including the Centre-South, Centre-North and the Central Plateau (ANAM, 2022).

Economic losses are mainly suffered by the poor, who are the most vulnerable and least able to cope with shocks and recover from them.

3.1.4 Adaptability

According to Notre Dame University's ND-GAIN index, which assesses a country's vulnerability and ability to adapt, Burkina Faso is ranked 161th out of 191 countries in 2023. According to this index, Burkina Faso is the 29th most vulnerable country and the 158th most ready to face climate

challenges. Burkina Faso faces significant vulnerability due to its low GDP per capita, high dependence on food imports, and high vulnerability related to ecosystem services and human habitat. The country therefore urgently needs investment and innovation to improve preparedness and response. Burkina Faso's adaptive capacity can be assessed on four key points: Governance, human, financial and technological resources.

- ***Climate change adaptation governance***

Climate governance in Burkina Faso remains relatively weak as it is still developing, with institutional organizations that need strengthening for better coordination and implementation of adaptation policies.

Strengthening governance in climate change adaptation area therefore calls for revitalizing consultation frameworks of the implementing actors, holding periodic monitoring meetings and developing legal instruments favorable to climate change adaptation actions. It will also improve monitoring-evaluation and capitalization of interventions as well as mobilization of human, material and financial resources necessary for the implementation of adaptation actions.

- ***Human resources***

Lack of qualified human resources is a major obstacle to adaptation to climate change in Burkina Faso. This deficiency is manifested by a very limited number of specialists in modeling, risk management and environmental engineering, essential for designing and implementing effective adaptation strategies. In addition, the lack of continuing education and adapted educational programmes limits the ability of existing professionals to respond to growing climate challenges. This hinders not only the planning and execution of adaptation projects, but also the awareness and commitment of local communities, which are essential for sustainable resilience to climate change impacts.

- ***Technological resources***

Lack of technological resources is a major obstacle to adaptation to climate change in Burkina Faso. This translates into limited access to advanced technologies such as climate monitoring systems, resilient infrastructure and renewable energy solutions. Without these tools, it becomes difficult to predict extreme weather events, protect critical infrastructure and reduce vulnerabilities. In addition, the lack of appropriate technologies limits the communities' ability to implement sustainable agricultural practices and effectively manage water resources. This situation hinders adaptation efforts and increases the populations' vulnerability to climate change impacts.

- ***Financial resources***

In Burkina Faso, conduct of climate change adaptation activities is ensured by the State budgetary allocations as well as those of its development partners. According to data from the Organisation for Economic Co-operation and Development (OECD), over the period 2013 to 2021, foreign resources mobilized by Burkina Faso for implementing adaptation actions are estimated at XOF 445.5 billion.

State budget allocations are estimated at XOF 360.3 billion between 2018-2022 (MEEA, 2024b). At the national level, over the same period, government expenditure related to adaptation is XOF 237.96 billion. This amount is well below the real needs, which amount to more than XOF 5,100 billion for the next five years. To enable its communities and ecosystems to be climate resilient, Burkina Faso will therefore need to mobilize 10 times more financial resources (MEEA, 2024b).
In view of these mobilizations, the country developed 17 concept notes, 10 of which were submitted to the GCF. Diagram 82 gives the proportion of adaptation in approved projects.

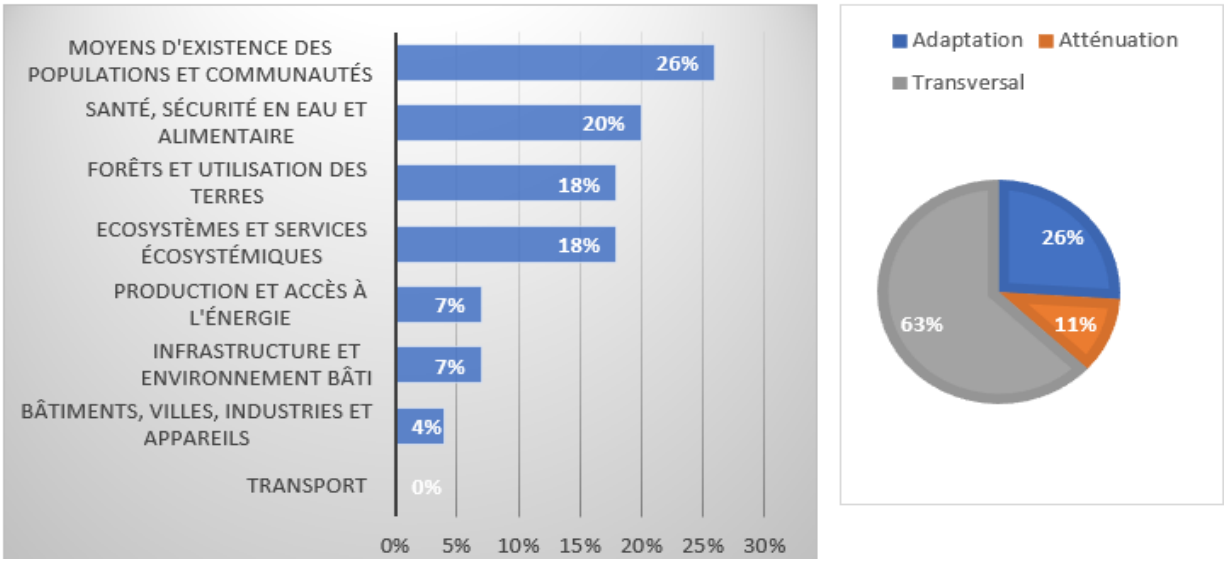

Diagram 82 : Proportion of adaptation and priority sectors in Burkina Faso's GCF portfolio
Source: SE/FVC/BF/2024

Considering the approved projects and using a sector-specific analysis, fewer projects are identified for the following sectors: Health, Livestock, Drinking Water Hygiene and Sanitation, Transport, Energy efficiency, Infrastructure, built Environment. Projects will therefore be needed to benefit these forgotten sectors while strengthening those already covered (livelihoods, food security, ecosystems, energy, forestry).
With regard to adaptation Fund created in 2001 and operationalized since 2009, Burkina Faso has not yet been able to mobilize the USD 20 million capped per country. However, concept notes are maturing for the mobilization of this fund.

In summary, Burkina Faso's adaptive capacity is generally weak, requiring urgent investment and innovation to improve preparedness and response to climate challenges. National circumstances, such as low GDP per capita, dependence on rain-fed agriculture, and heavy reliance on international assistance to finance adaptation initiatives are factors that exacerbate the country's vulnerability.

3.1.5 Institutional arrangements and governance

Climate change governance and in particular that of adaptation, involves several structures that can be grouped into state and non-state actors.

The Table 40 below makes the economy of these actors with their roles.

Table 40 : Actors with their roles

Institutional arrangements and governance		
Institutions	**Structures involved in adaptation**	**Roles**
State actors		
Ministry of Environment, Water and Sanitation	- Permanent Secretariat of the National Council for Sustainable Development - Permanent Secretariat for REDD+ (SP/REDD+) ; - Directorate General for Green Economy and Climate Change (DGEVCC).	It is responsible for ensuring the implementation and monitoring of Government's policy on decentralization. Mainly responsible for coordinating adaptation actions and implementing national adaptation strategies Commission vulnerability and risk studies for developing national and regional adaptation plans ; Coordinate the monitoring and evaluation of adaptation actions ; Promote climate resilience and adaptation actions ; Report information related to adaptation to competent agencies.
Prime Minister's Office	- Executive Secretariat of the Green Climate Fund in Burkina Faso (S.E.- FVC/BF).	Ensure the interface between the Secretariat of the Green Climate Fund and Burkina Faso Government ; Strengthen resource mobilization for effective resilience ;
Ministry of Humanitarian Action and National Solidarity	- General Directorate for Women and Gender Promotion - Permanent Secretariat of the National Council for Emergency Relief and Rehabilitation (SP-CONASUR) - .	Promote gender, disaster risk prevention and management for effective resilience of vulnerable groups.
Minister of Territorial Administration and Mobility	- National Meteorological Agency (ANAM), 2023	Ensure the climate forecasts and information needed to better address climate risks ; Provide climate data and analysis to assess climate change impacts.
Ministry of Economy and Finance	- • General Directorate for Cooperation; - General Directorate for Economy and Planning;	Contribute to climate finance mobilization for better adaptation ; Ensure the interface between adaptation Fund and the country ; Ensure that adaptation actions are taken into account in the country's development policies and strategies.

Ministry of Agriculture, Animal Resources and Fisheries	- General Directorate of Animal Resources - • Directorate-General of fishery resources; - General Directorate for Rural Economy ; - General Directorate of Plant Protection;	- Ensures rural world supervision, promotion of good agricultural practices, promotion of innovative agricultural technologies (greenhouse cultivation, off-ground, conservation agriculture, etc.) ; - Develop and enhance pastoral areas ; - Promote agro-ecology.
National Assembly	- Commission on Sustainable Development - Network of Parliamentarians on Environment and Climate Change.	- Monitor government action on issues related to climate change adaptation and sustainable management of natural resources.
Local authorities (municipalities and regions)	- 13 Regional Councils - 351 municipalities - 8000 villages	- Manage environment and natural resources - Integrate local and national adaptation priorities into planning frameworks (communal development plans (PCDs) and regional development plans (RDPs) ; - Mobilise financial resources for the implementation of adaptation actions.
Non-State actors		
Non-Governmental Organizations and Development Associations	- NGOs - CSOs	- Participate in the development and implementation of climate change adaptation policies, strategies, plans and programmes ; - Mobilize financial resources to implement climate change adaptation actions.
Private Sector	- Agriculture and agro-industry - Mine and Energy - Industry and construction - Technology and Innovation - Banks and Insurance companies - Etc.	- Create wealth and contribute to the country's gradual transition to a green and resilient economy. These sectors play a crucial role in mobilizing resources for sustainable development in Burkina Faso.
Technical and financial partners (TFP).	- Bilateral, multilateral, financial institutions, philanthropists etc.	- Mobilizes financial resources for the implementation of adaptation actions.

Source : MEEA, BTR1, 2024

It should be noted that in addition to the above-mentioned institutions, other ministries contribute to adaptation to climate change, namely the Ministry of Health, Energy, Infrastructure, Housing, Scientific Research and Innovation.

In addition, consultation frameworks have been set up at national level and offer opportunities for the various actors mentioned above to meet, exchange, share experiences and good practices while ensuring the coherence of adaptation interventions.

These consultation frameworks include: National Conference on Sustainable Development (CONADD); Single Consultation Framework for Environmental Conventions (CCUC) ; the National Committee on Climate Change (CNACC) ; the National REDD+ Platform ; the Consultation Framework for National Focal Agencies on Climate Finance Mobilization (CC SFN FC) ; the Regional Dialogue Frameworks (CDFs). In addition to these frameworks, there are steering committees for projects and programmes that give stakeholders an opportunity to discuss challenges and issues related to adaptation to climate change (MEEA, 2024b).

The analysis of the institutional and organizational framework related to adaptation to climate change reveals a plurality of state and non-state actors according to their responsibilities and interests and under the authority of the Ministry of Environment.
However, it should be noted that there is a weak operation some consultation frameworks due to insufficient financial resources (CONADD, CRD). This limits effectiveness in coordinating adaptation interventions.

3.1.6 Legal and policy frameworks, and regulations

Burkina Faso economy is heavily dependent on climate-sensitive sectors such as agriculture and water resources, making protection and preservation of natural environment a prerequisite for a sustainable economy creation. At regulation level, Burkina Faso has a number of legal instruments specifically aimed at managing interactions between man and environment. Articles 29 and 30 of Burkina Faso Constitution recognize everyone’s right to a healthy environment, the duty to protect it for all, and the right to take part in collective action against activities affecting the interests of communities and environment. Table 41 below summarizes the legal, political and regulatory frameworks for adaptation in Burkina Faso.

Table 41 : Adaptation legal framework, policies and regulations

Cadre juridique International	
International conventions and agreements ratified by Burkina Faso.	
- United Nations Framework Convention on Climate Change.	
- Kyoto Protocol	
- 2015 Paris climate agreement	
National Legal Framework	
Instrument	Link to adaptation
Burkina Faso Constitution	- Articles 14: The country's wealth and natural resources must be used to improve people's living conditions. - Articles 29 and 30 of Burkina Faso Constitution recognize everyone's right to a healthy environment, the duty to protect it for all, and the right to take part in collective action against activities affecting the interests of communities and environment.
Law No. 008-2014 / NA of April 8, 2014 on Sustainable Development Orientation Law;	- Articles 2; 3; 5; 6: Establishes the general rules governing sustainable development implementation in Burkina Faso, taking into account climate change and adaptation.
Law No. 008--2018 / NA of April 8, 2014 on Orientation Law on land use planning and sustainable development in Burkina Faso;	- Articles 1; 2; 3; 5; 15: Lays down fundamental principles on land use planning and sustainable development and aim to promote social progress, economic efficiency and environment protection in accordance with Community land use planning policies.
Law No. 006-2013/AN of April 2, 2013 on Environmental Code in Burkina Faso;	- Articles 17-35: Establishes the fundamental rules governing environment in Burkina Faso and instruct public authorities to ensure sustainable management of natural resources; continuous improvement living conditions of living beings; prevention and satisfactory management of technological risks and disasters; environment restoration.
Law n°003-2011/AN on Forestry Code in Burkina Faso	- Articles 41-46 Establishes fundamental principles on sustainable management and development of forest, wildlife and fishery resources.

Law n°002-2001/AN of February 8, 2001 on regulating water management.	- Articles 1; 2; 3; 4: Aims to protect and sustainably manage water resources.
law No. 070-2015/CNT of October 22, 2015 on Agro-Sylvo-Pastoral, Fisheries and Wildlife Orientation Law in Burkina Faso;	- Articles 1; 3; 5; 7; 12: Establishes broad orientations on sustainable development of agro-sylvo-pastoral, fisheries and wildlife activities for sustainable development in Burkina Faso.
Law no. 012-2014/AN, on Orientation Law on prevention and management of risks, humanitarian crises and disasters.	- Articles 1; 3; 5; 12: Prevention and management of risks, humanitarian crises and disasters in Burkina Faso, regardless of their nature, origin and scale.
Law No. 034-2012/AN of July 2, 2013 on agrarian and land reorganization in Burkina Faso	- Articles 3; 4; 12: Incorporate principles on sustainable development, precaution and prevention essential for adaptation to climate change.
Law No. 036-2015/CNT of October 29, 2015 and its amendment of July 18, 2024 on Mining Code in Burkina Faso	- Articles 1; 3; 12; 25: Advocates sustainable and safe exploitation of natural resources integrating principles of sustainable development, rehabilitation of mining sites and prevention of environmental risks - Establishment of Mining Development Fund which will be allocated to financing endogenous development projects and communal development plans which are adaptation instruments.
Law No. 034-2009 / AN of 16 June 2009 on Rural Land Tenure	- Articles 1; 2; 4: Regulate rural land use and secure land tenure for rural actors with equitable access to land, prevention of land conflicts and sustainable management of natural resources.
Law n°025-2017/AN on Plant protection in Burkina Faso	- Articles 1; 2; 3; 12: Protect plant health and plant products from pests through phyto-sanitary surveillance, pest prevention and control, and promotion of crop production quality.
Policy framework	
the Second National Economic and Social Development Plan (2021-2025)	- Axes 1 and 3 as well as environmental and Social Charter: Structurally transform Burkina Faso economy and reverse the trend degrading environment and natural resources to promote climate resilience and reduce greenhouse gas emissions.
National Sustainable Development Policy (PNDD)	- 1.1.2.2. Environment contribution to Burkina Faso economy: “it is economically beneficial to improve natural resource management in our

	country". For the State, investing in natural resource management constitutes in return opportunities for significant gains…)
National Climate Change Adaptation Plan (NAP), by 2024-2028;	- Overall Objective of NAP: Strengthen the resilience of populations and ecosystems to climate change in order to improve communities' socio-economic conditions.
Nationally Determined Contribution (2021-2025)	- 3.2. Contribution to reducing GHG emissions in line with NDC through actions to adapt to climate change effects
National Environmental Policy (PNE)	- Articles 4; 7 and10: Contributes to the implementation of climate change adaptation strategies
National Water Policy	- Articles 5; 8 and 12: Ensure sustainable management of water resources to meet current and future needs.
National Policy for Land Tenure Security in Rural Areas (PNSFMR)	- Articles 3; 5; 8: Contributes to building resilience, sustainable land management and equitable access to resources.
Burkina Faso's National Science, Technology and Innovation Policy (PNSTI) over the period 2017-2025	- Articles 6; 9; 12 Research programmes including specific programmes for adaptation to climate change, focusing on natural resource sustainable management, resilient agriculture, and ecosystem protection
National Gender Strategy	- Strategic objective 1.3 : Improve women and girls' care and protection in insecurity and climate change context

Source : MEEA, BTR1, 2024

Legal and political framework analysis highlights a variety of texts adopted at both international and national levels that provides a legal basis for promoting and strengthening adaptation in Burkina Faso. Also, ratification of international conventions offers opportunities to mobilize financial resources to implement priority adaptation actions.

However, there are limitations in the legal framework. These are mainly (i) existence of legal texts not adapted to socio-economic and environmental context, (ii) legal texts low level of popularization, (iii) legal texts low level of application, (iv) difficulty in monitoring the implementation of these texts, and (v) low level of internalizing certain international legal texts. All of these shortcomings promote harmful actions for a sustainable reduction in vulnerability of actors and ecosystems to climate change (MEEA, 2024b).

3.2 Impacts, risks, and vulnerabilities

3.2.1 Current climate trends

The focus was on trends in two major climate parameters, namely temperatures and rainfalls. This analysis focused on three synoptic stations covering the country three climatic zones: Dori station in Sahelian zone, Ouagadougou in Sudano-Sahelian and Bobo Dioulasso in Sudanian zone.

❖ Temperatures

- ***Annual average maximum temperatures***

This is the average of the largest daily temperature values measured during the year. Analysis of annual average maximum temperatures in Bobo-Dioulasso and Ouagadougou indicates an overall upward trend between 1991 and 2023 as shown in Diagram 83. For Bobo-Dioulasso station, there was a relatively higher annual average maximum temperature period between 1999 and 2008. The trend of annual average maximum temperatures for Dori station located in the Sahelian climate zone is generally decreasing. However, since 2021 the synoptic station of Dori remains unusable due to insecurity.

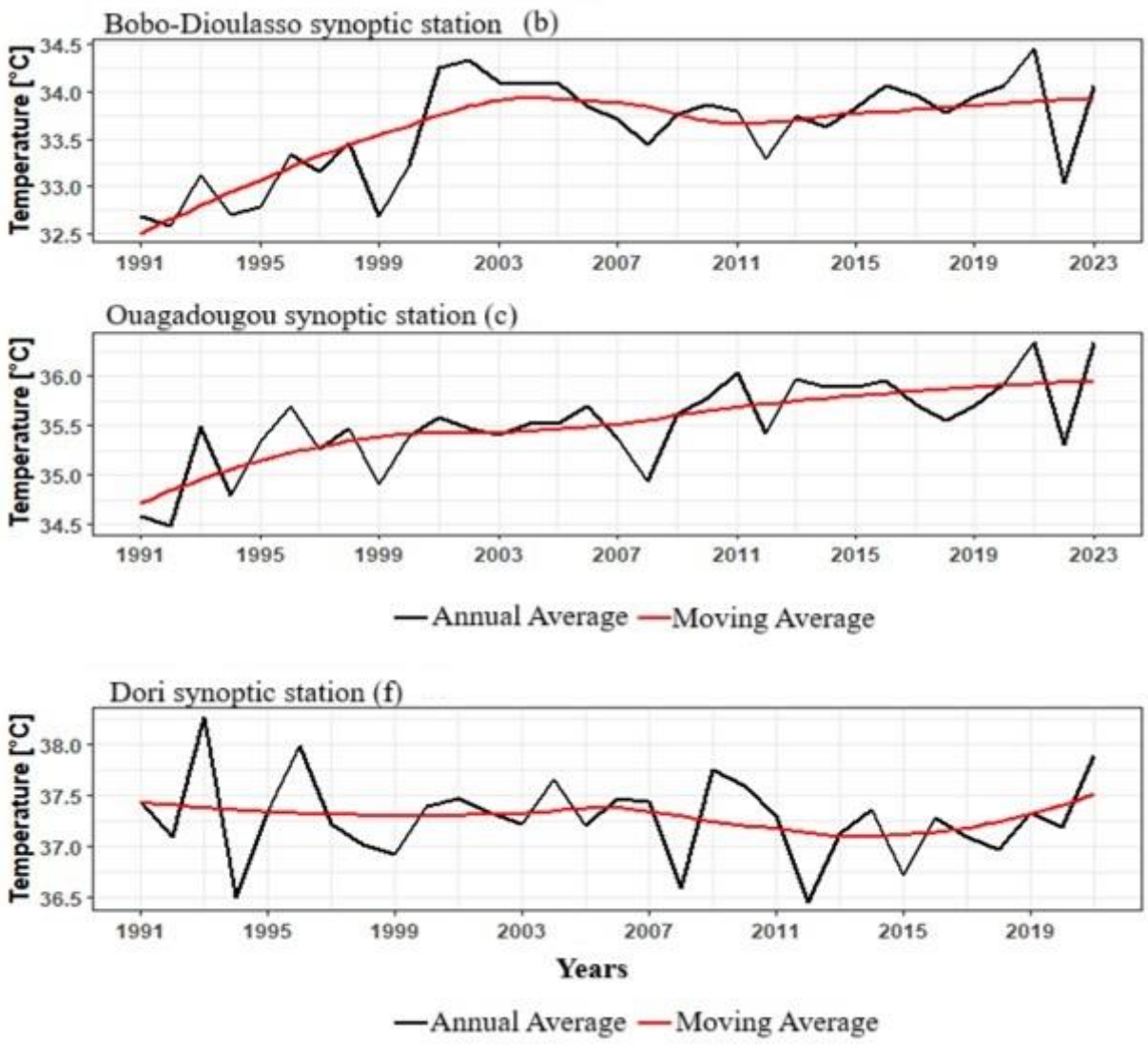

Diagram 83 : Evolution of maximum annual average temperatures in Bobo-Dioulasso (a), Ouagadougou (b) and Dori (c)

Source: ANAM

- ***Annual average maximum temperatures***

This is the average of the largest daily temperature values measured during the year. Diagram 84 shows a significantly increasing trend in minimum annual average temperature over the period 1991-2023 in Bobo-Dioulasso and Ouagadougou. Regarding Dori located in the Sahelian climate zone, there is initially an upward trend accompanied by relative stability or even a decline in recent years. Overall, there is an overall upward trend for all three locations.

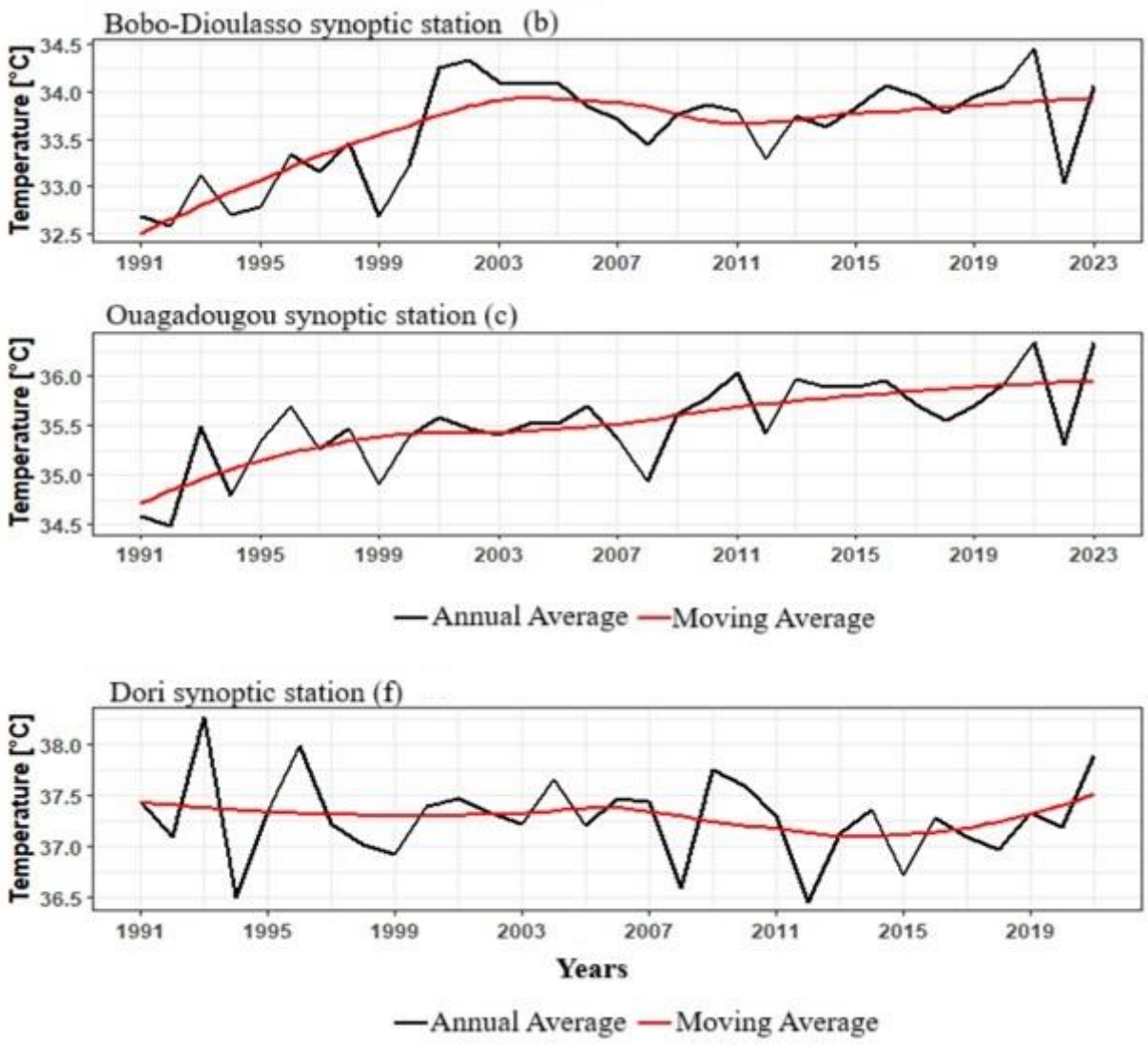

Diagram 84 : Evolution of maximum annual average temperatures in Bobo-Dioulasso (a), Ouagadougou (b) and Dori (c).

Source : ANAM

- ***Cold nights Climate Index (tn10p)***

A significant decrease in percentage of cold nights over the years is observed for the synoptic stations in Bobo-Dioulasso, Ouagadougou and Dori as indicated in Diagram 85. Cold nights climate index is an interesting indicator of overall evolution in minimum temperatures over time. The result obtained indicates a significant decrease in days with very low temperatures, thereby showing a warming trend.

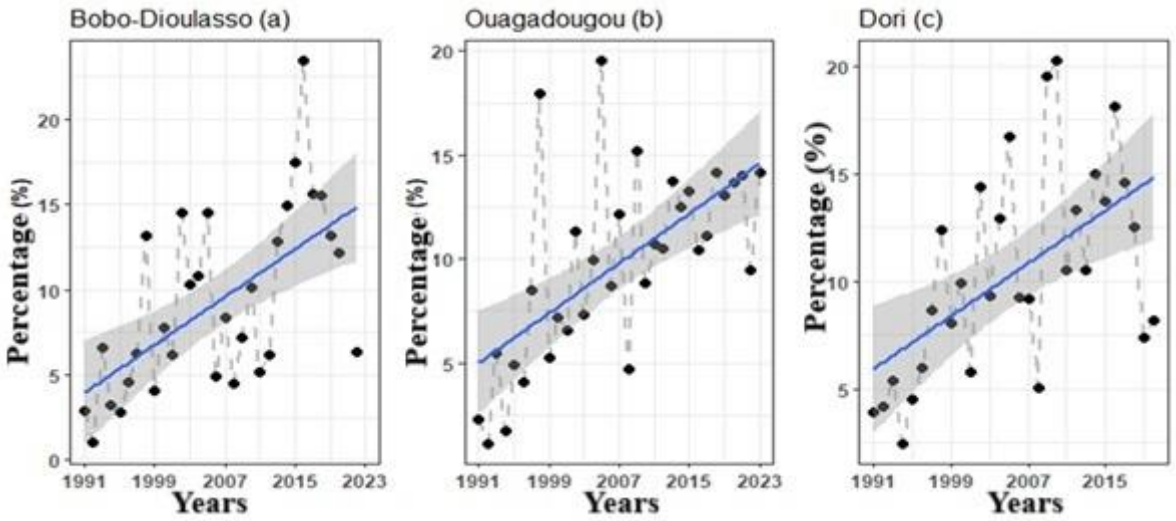

Diagram 85 : Evolution in percentage of cold nights in Bobo-Dioulasso (a), Ouagadougou (b) and Dori (c).
Source: ANAM

- ***Hot nights Climate Index (tn90p)***

Over the period 1991-2023 an upward trend in the percentage of hot nights can be observed at the level of synoptic stations in Bobo-Dioulasso, Ouagadougou and Dori as mentioned in Diagram 86. This also highlights a warming of daily minimum temperatures at these locations. Number of days when the lowest temperature of the day is very high (compared to historical minimum temperature data) is increasing significantly.

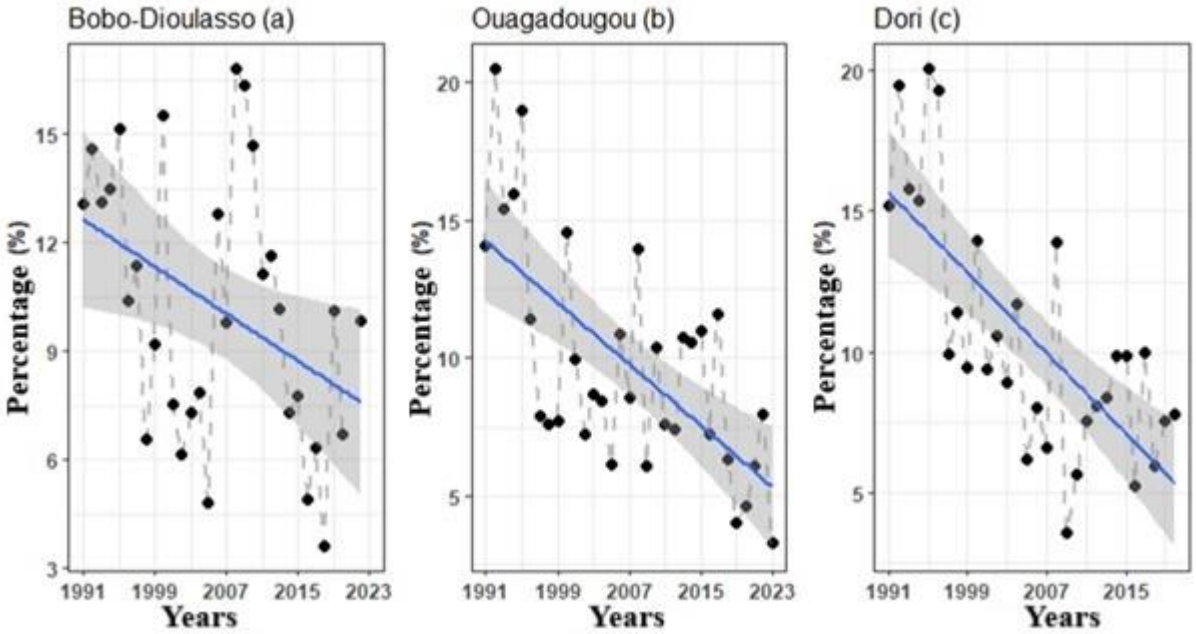

Diagram 86 : Evolution in percentage of hot nights in Bobo-Dioulasso (a), Ouagadougou (b) and Dori (c).
Source : ANAM

- ***Cold days Climate Index (tx10p)***

Diagram 87 shows a downward trend in the percentage of cold days at the Bobo-Dioulasso, Ouagadougou and Dori synoptic stations over the period 1991-2023. This shows that maximum temperatures below 90% of the maximum temperatures over this period are less and less frequent over the years. It is therefore evident that days with very low maximum temperatures (compared to historical maximum temperature data) are decreasing.

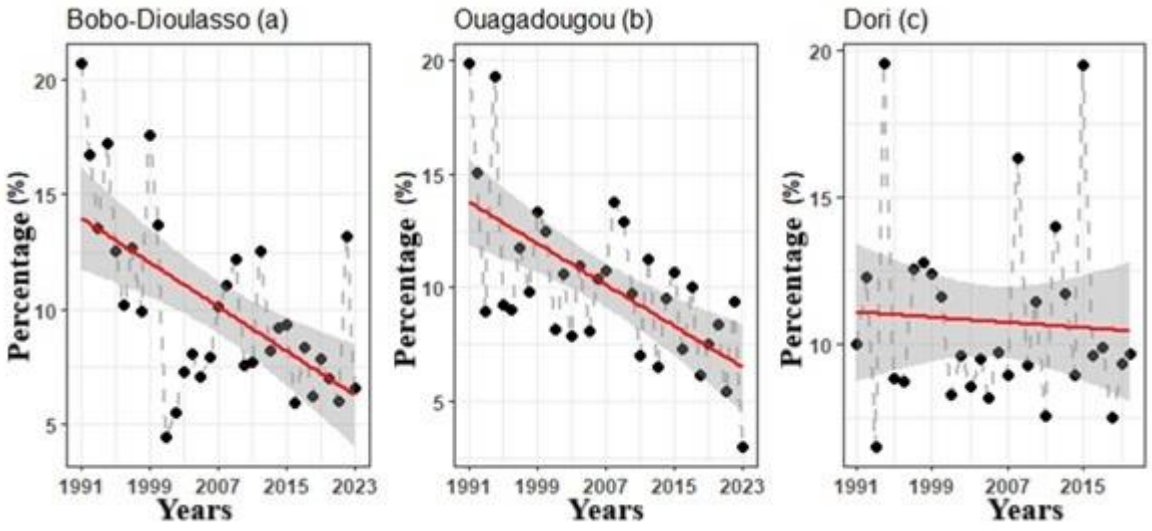

Diagram 87 : Evolution in percentage of cold days in Bobo-Dioulasso (a), Ouagadougou (b) and Dori (c).
Source : ANAM

- ***Hot days Climate Index (tx90p)***

Over the period 1991-2023 an upward trend in the percentage of hot nights can be observed at the level of synoptic stations in Bobo-Dioulasso, Ouagadougou and Dori as mentioned in Diagram 88. This indicates that maximum temperatures above 90% of the maximum temperatures over this period are increasingly frequent over the years in Bobo-Dioulasso and Ouagadougou located respectively in Sudanian and Sudano-Sahelian climatic zones. However, there is a relatively decreasing trend in tn90p in Dori town located in the Sahelian climatic zone.

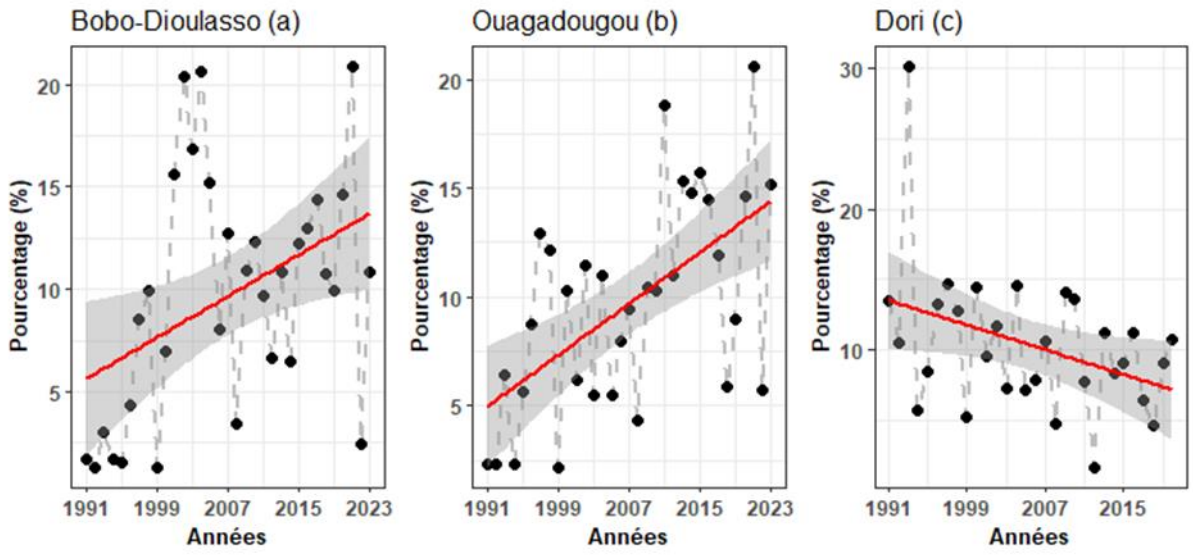

Diagram 88 : Evolution in percentage of hot days in Bobo-Dioulasso (a), Ouagadougou (b) and Dori (c)
Source: ANAM

In general, over Burkina Faso as a whole, average temperatures are rising as illustrated by Diagram 89 on migration of isotherms.

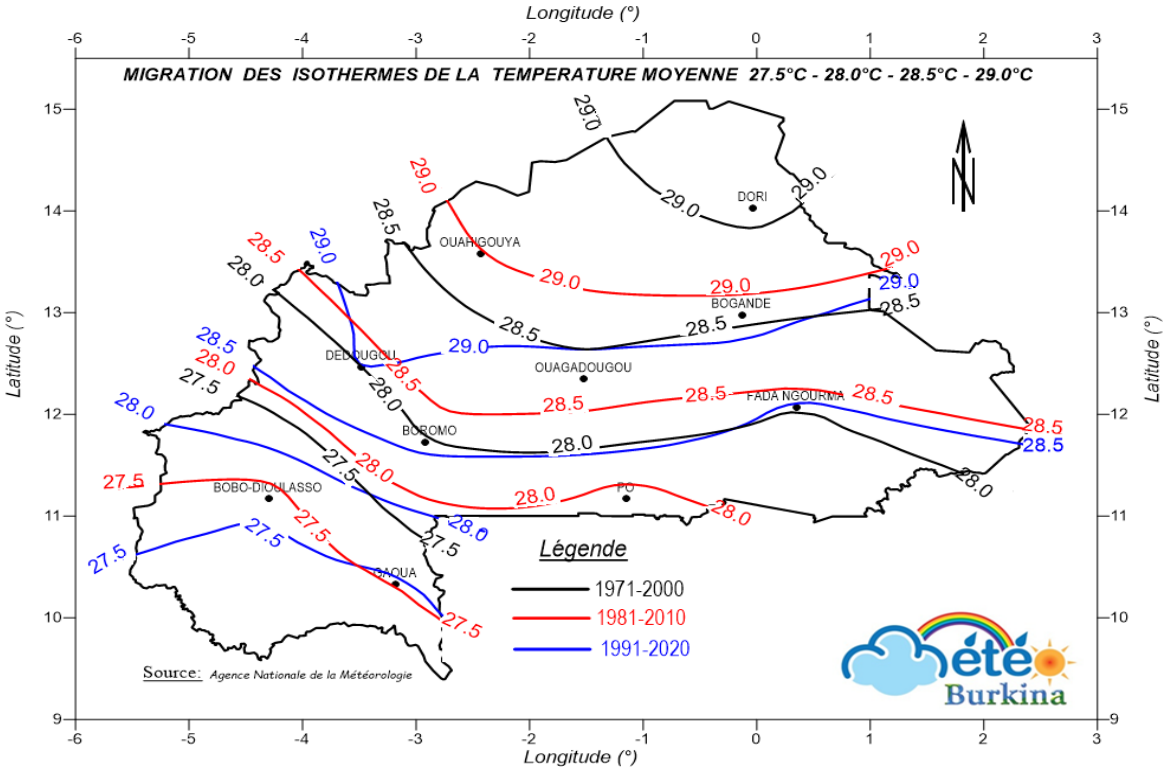

Diagram 89 : Migration of isotherms of average temperature in Burkina Faso between 1971 and 2020

Source: ANAM

❖ Rainfalls

Analysis of rainfall anomaly through standardized rainfall index of monthly cumulative rainfall at Bobo-Dioulasso, Ouagadougou and Dori rainfall stations over a rolling period of six (06) months shows an alternation of deficit and surplus periods without a particular trend (Diagram 90). However, for Ouagadougou and Dori stations, last few years have been wetter. As for Bobo-Dioulasso station, a predominantly wet period has been observed since 2018. Data for the whole country show an increase in cumulative rainfalls after a decline observed over the period 1971-2000 (Diagram 90).

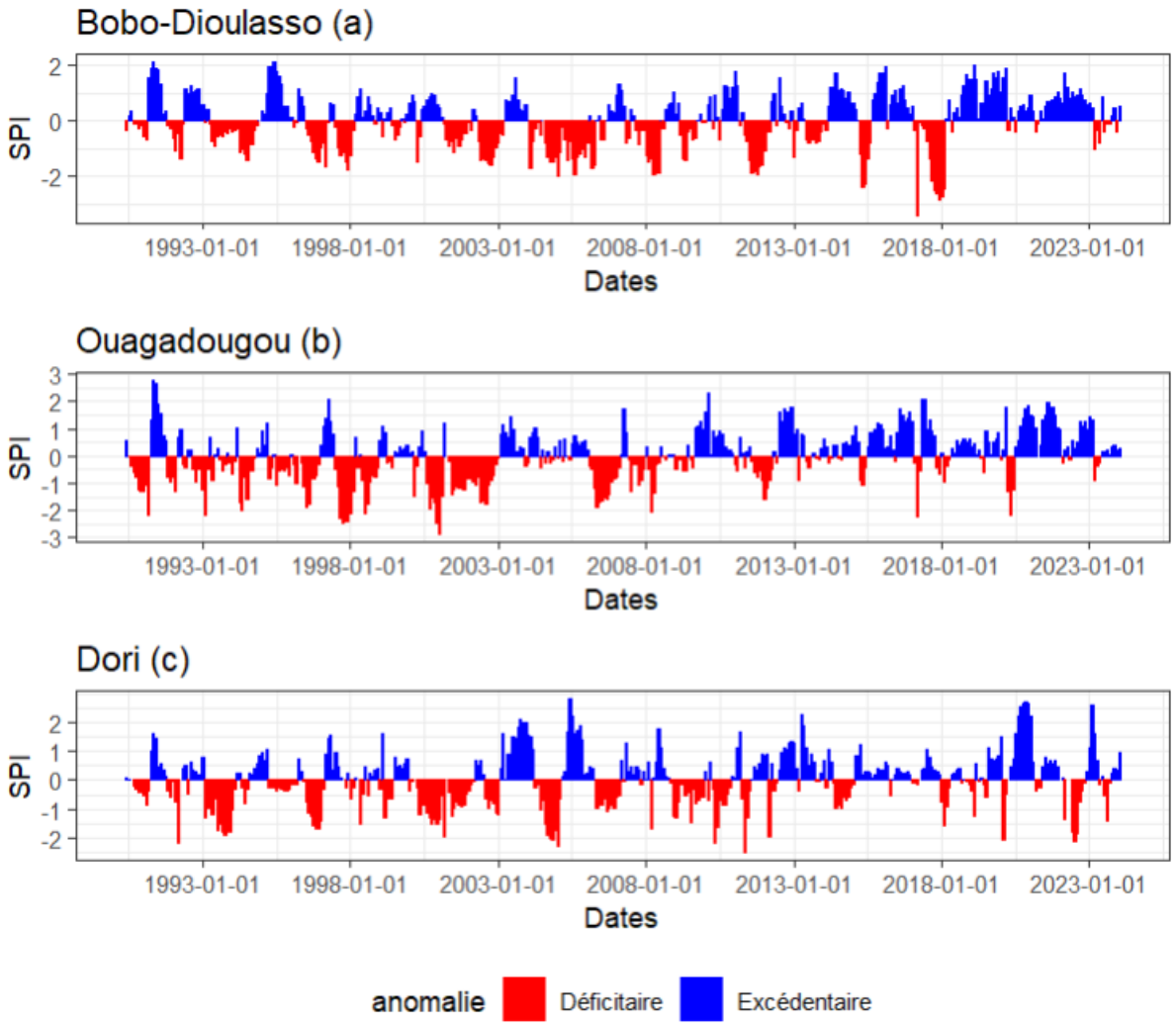

Diagram 90 : Evolution of the standardized rainfall index (SRI) over rolling six (06) months in Bobo-Dioulasso (a), Ouagadougou (b) and Dori (c).

Source: ANAM

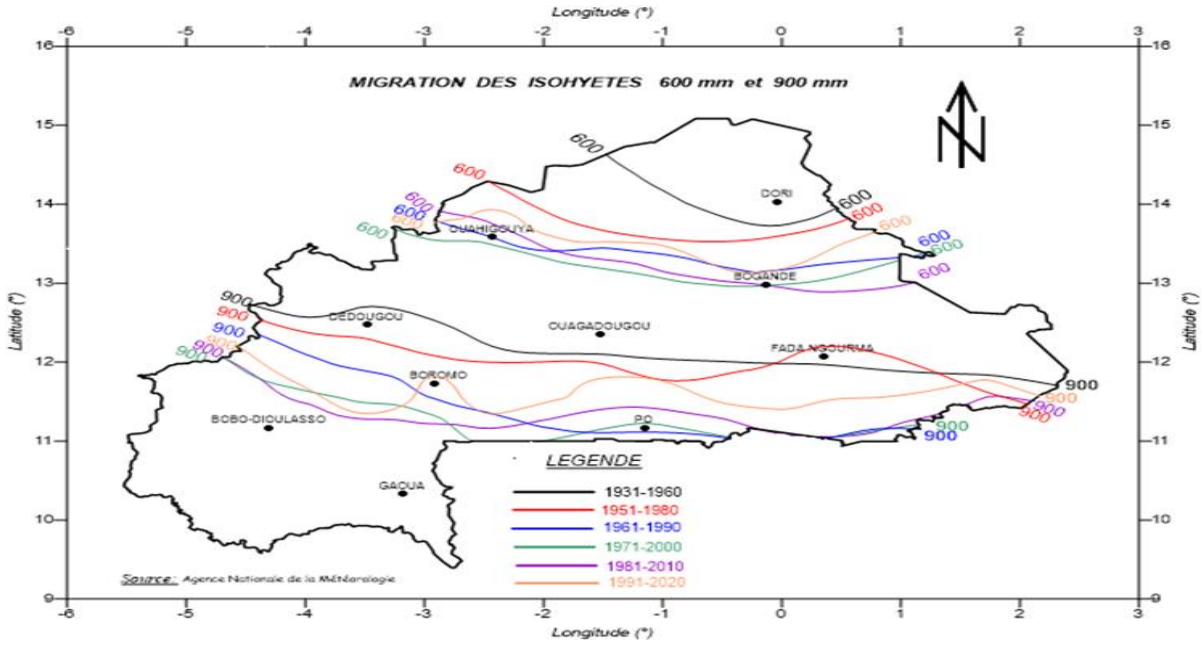

Diagram 91 : Migration of 600- and 900-mm isohyets from 1931 to 2020
Source: ANAM

3.2.2 Future climate trends

❖ **Rainfall**

Rainfall trends in Burkina Faso are illustrated in Diagram 92. The average of all models projects a significant increase in annual precipitation in all regions of Burkina Faso. This upward trend is predicted by more than 80% of CMIP6 models, except for the period 2051-2080 under the SSP1–2.6 scenario, where 25% of the models agree on a decrease in rainfalls. The maximum increase in rainfall in both periods could reach 5–10% for SPS1–2.6, 10–15% for SPS2–4.5, and 20–30% for SPS2–8.5. In general, there is a pronounced increase in rainfall in the northern parts of the country, especially in the far future (2051-2080) and in high emission scenario (SSP5-8.5).

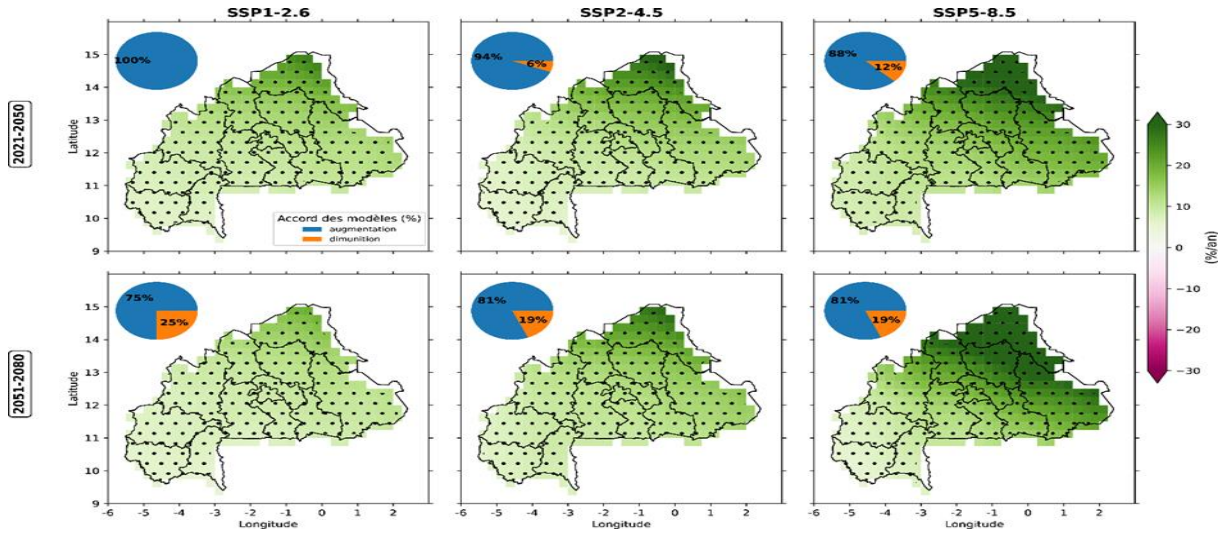

Diagram 92 : Projected changes in average of all rainfall models across Burkina Faso under SSPs scenarios for the near (2021-2050) and far future (2051-2080).
Source: MEEA (2024b).

Black dots mark areas where changes are significant at 95% probability level. The pie chart in each case shows the percentage agreement of models on the country average.
However, it should be noted that the increase in rainfall could be accompanied by temporal variability until 2100, which increases according to the SSPs scenarios (Diagram 93). This means that rainfalls may vary from year to year but are higher than the reference period (1985-2014). At country level, overall average of models projects an increase in rainfalls toward the end of the century with a maximum increase of about 20%.

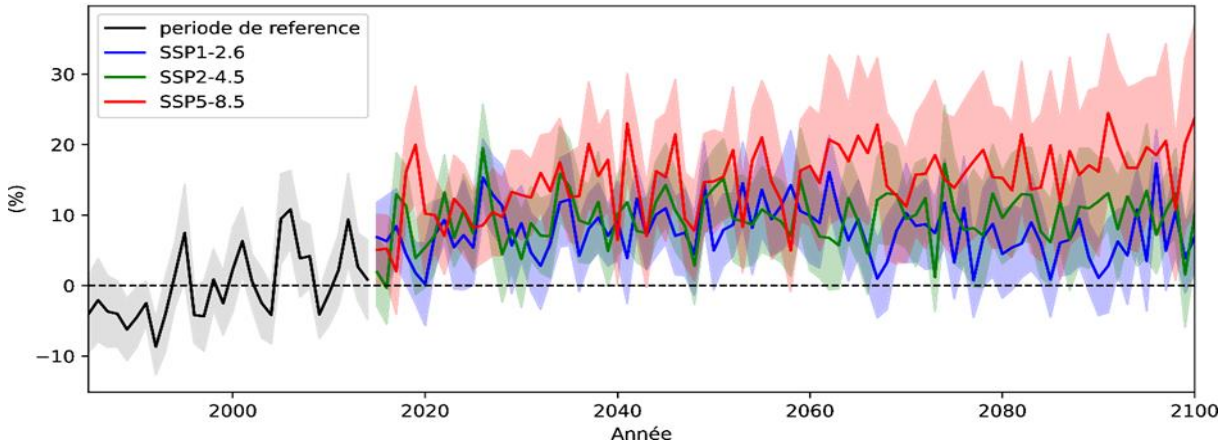

Diagram 93 : Average annual variation of rainfall in Burkina Faso
Source: MEEA (2024b)

There is a change in average rainfalls in Burkina Faso from the average of all models for the reference period (in black) and three Shared socio-economic pathways (SSPs) scenarios (compared to 1985-2014): SSP1-2.6 (blue), SSP2-4.5 (green), and SSP5-8.5 (red). A light color shaded around the reference period and different SSP indicates minimum and maximum model values.

❖ Annual air temperature

Overall model average predicts a significant increase in air temperature in Burkina Faso (Diagram 94). More than 90% of models agree on this temperature increase. A minimum warming of 0.8 ◦C is predicted for the periods 2021-2050 and 2051-2080 regardless of country scenarios and regions. However, the increase in temperatures would be much more pronounced in the SSP5–8.5 scenario and from 2051-2080. The west and especially the north of the country will experience a greater warming. All climate models agree on a warming exceeding 4.5˚C for the period 2051-2080 according to SSP5-8.5 in the northern part of the country. In contrast, increase in air temperature is expected to be lower in the eastern region.

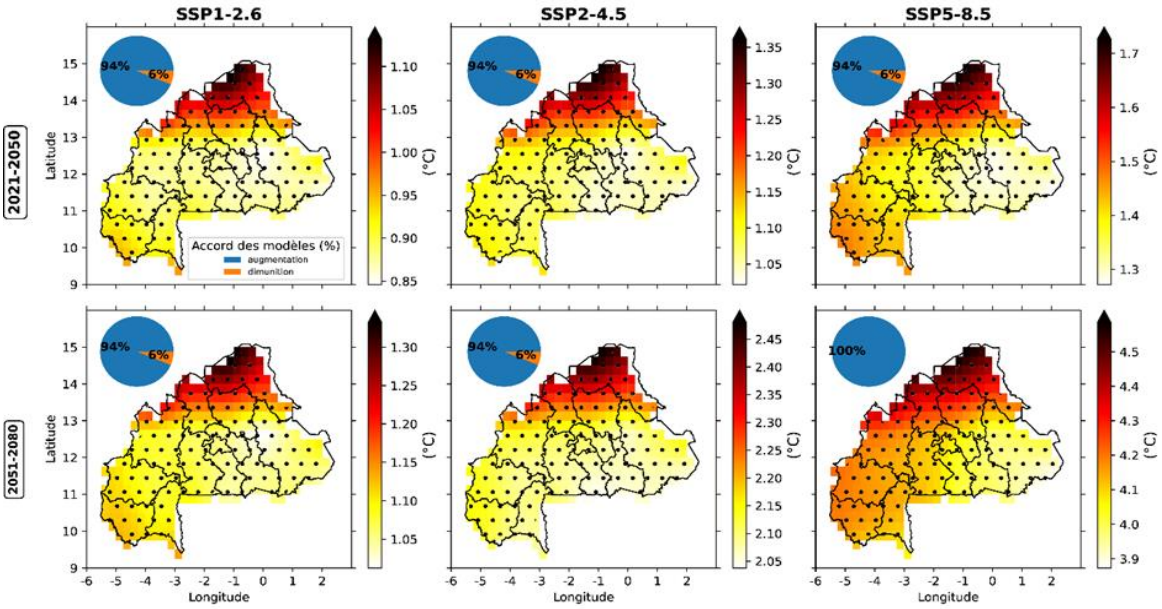

Diagram 94 : Projected changes in average of all temperature models across Burkina Faso under SSPs scenarios for the near future (2021-2050) and far future (2051-2080).

Source: MEEA (2024b).

Diagram 95 shows the projection of average annual air temperature variability up to 2100 under different scenarios. Warming is expected to continue to increase until 2100, but with different increases depending on scenarios. By the end of the century, a maximum increase of about 1.0˚C, 2.0˚C, and 5.5°C is predicted under SSP1-2.6, SSP2-4.5, and SSP5–8.5, respectively.

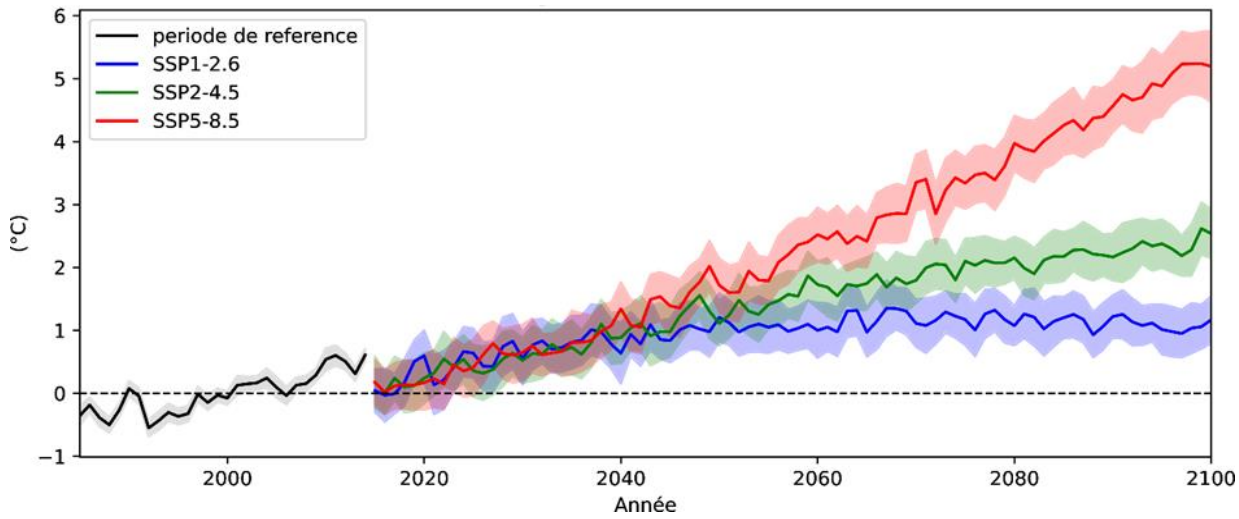

Diagram 95 : Average annual temperature variation in Burkina Faso.
Source : MEEA (2024b).

❖ Evapotranspiration

The average of all models predicts a robust upward trend in evapotranspiration in all regions of Burkina Faso for all scenarios and time periods considered (Diagram 96). A large proportion of climate models (80%) agree on this increase in evapotranspiration. Evapotranspiration is projected to increase by at least 5% in the SSP1-2.6 scenario. This increase is more obvious in the SSP5-8.5 scenario and the period 2051-2080 with an increase of more than 10%. This trend is likely to affect water resources with reduced soil moisture and agricultural droughts.

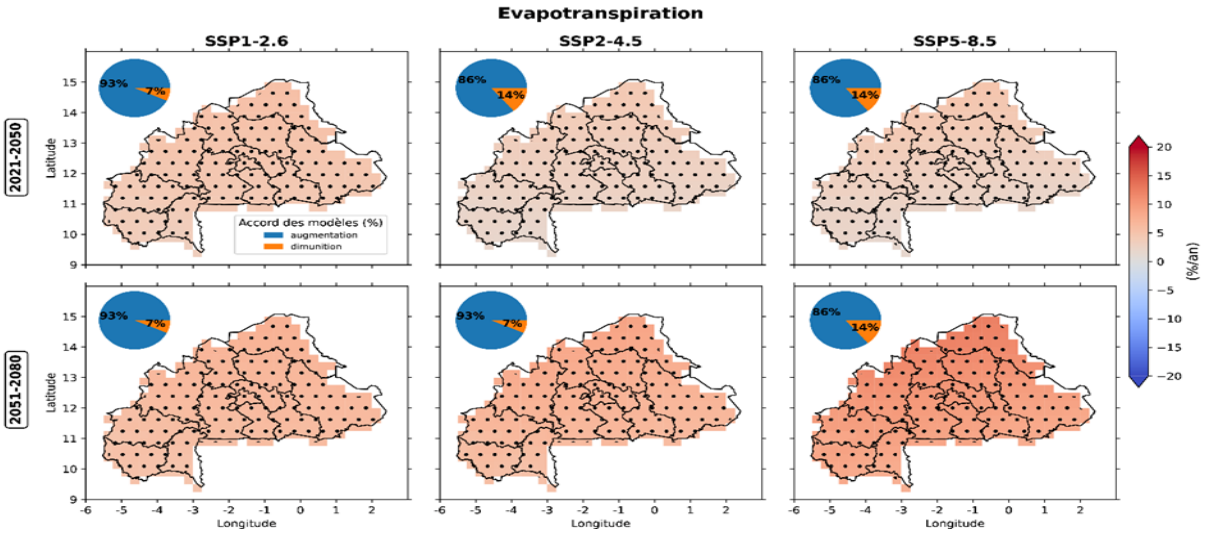

Diagram 96 : Projected changes in average of all evapotranspiration models across Burkina Faso under SSPs scenarios for the near future (2021-2050) and far future (2051-2080).
Source: MEEA (2024b).

3.2.3 Main climate risks and their projections

National and regional adaptation plans and climate vulnerability studies have identified major climate risks and their projections into the future. It emerges from this work that Burkina Faso faces a variety of climatic risks, the main ones being droughts (including late onset of rains, early end of rains, season length and pockets of drought), floods including extreme rains, and heat stress (Table 42). Table 43 summarizes the average projections of climatic risks across Burkina Faso. It is noted that, with the exception of early rains and pockets of drought, the models agree on most of the projected changes.

Table 42 : Major climate risks in Burkina Faso

Climate risk	Climate indexes	Description
Droughts	Start of rainfalls	Average rainy season starting date
	End of the rainfalls	Average rainy season ending date
	Rainy season duration	Difference between rainfalls starting and endçing dates
	Pocket of droughts	Maximum number of consecutive dry days during the rainy season with daily rainfalls of less than 1 mm
Floods	Flood index	The flood index used here is defined as the maximum amount of rainfalls over five days in a given period. This is a measure of heavy rainfalls, with high values indicating a high flooding probability. An increase in this index over time means the risk of flooding will increase
	Extreme rainfalls	Number of days per period with a daily rainfall of at least 20 mm. This climate index is a measure of heavy rainfalls.
Thermal stress	Heat index	Heat Index is a measure of quantification of heat stress on humans that takes into account the effects of temperature and relative humidity, and condenses the information into a single number, expressed in temperature. The Rothfusz equation (1990) is used to characterize heat stress above 41°C. A value above this threshold is classified as dangerous due to possible occurrence of heat cramps and heat exhaustion

Source : MEEA, PNA, 2024

Table 43 : Future trends in key climate risks

Climate risks	Description/Definition	Future trend						
		2021-2050			2051-2080			Accord des modèles
		SSP1-26	SSP2-45	SSP5-85	SSP1-26	SSP2-45	SSP5-85	
Droughts	Start of rainfalls(days)	-1	-2	-2	-1	-2	0	Non
	End of the rainfalls (days)	2	3	3	2	3	5	Oui
	Season duration (days)	3	5	6	3	5	4	Oui
	Pocket of droughts (days)	0	0	0	0	0	0	Non
Floods	Extreme rainfalls (days)	1	1	2	1	2	3	Oui
	Flood index (mm)	16,11	14,63	18,38	15	17,12	21,87	Oui
Thermal stress (days)	Heat index	41	45	65	40	52	84	Oui

Increase Reduction No trend

Source : MEEA, PNA, 2024

- **Droughts**

Compared to reference period, the number of days for pockets of drought would remain stable without any significant trend in the future. The evidence Diagram 97 shows that pockets of drought could occur in some areas of the country. However, it is noted that these changes are not significant for a large part of the territory, and suggest significant uncertainties, as less than 80% of the models agree on change sign.

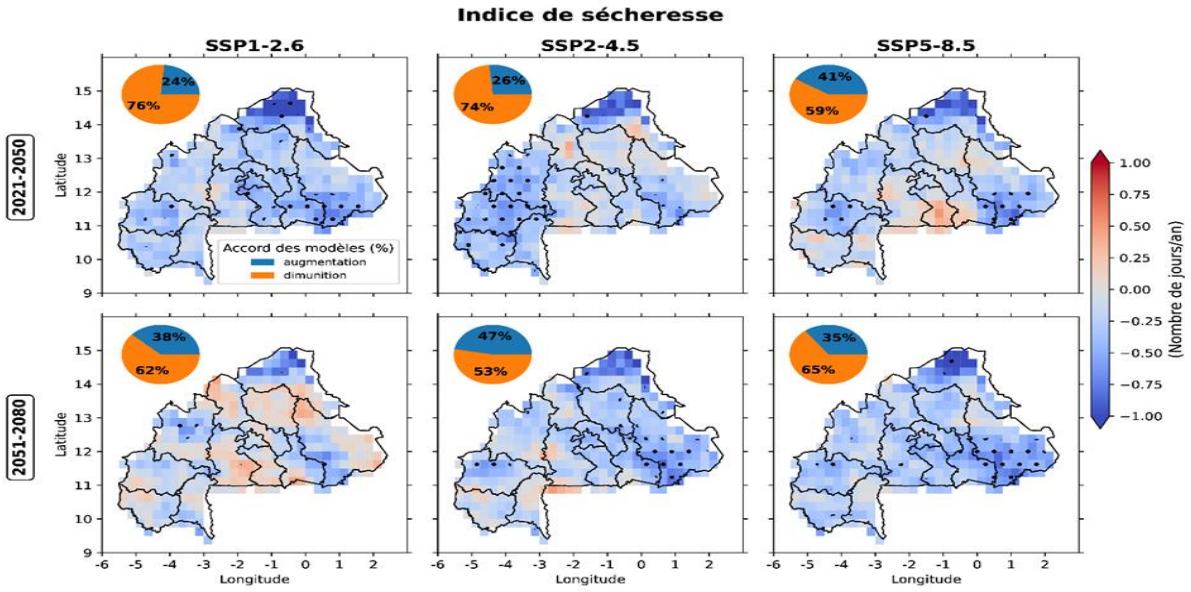

Diagram 97 : Projected changes in the average of all models of pockets of drought across Burkina Faso
Source: MEEA (2024b).

Across the country, an early start to the rainy season is mainly forecast for the periods 2021-2050 and 2051-2080 (except in the SSP5-8.5 scenario). On the other hand, a significant rainfall delay of up to 5 days is projected in western part of the country in the far future (Diagram 98). The models agree on a late end to rainfall in the future, with a time lag of up to 5 days for the period 2051-2080 in SSP5-8.5. Rainy seasons should also spread over time. This significant increase in season length is more pronounced in the SSP5-8.5 scenario and toward the end of the century (MEEA, 2024b; Sawadogo et al., 2024). It could reach 10 to 15 days, especially in the northern part of the country.

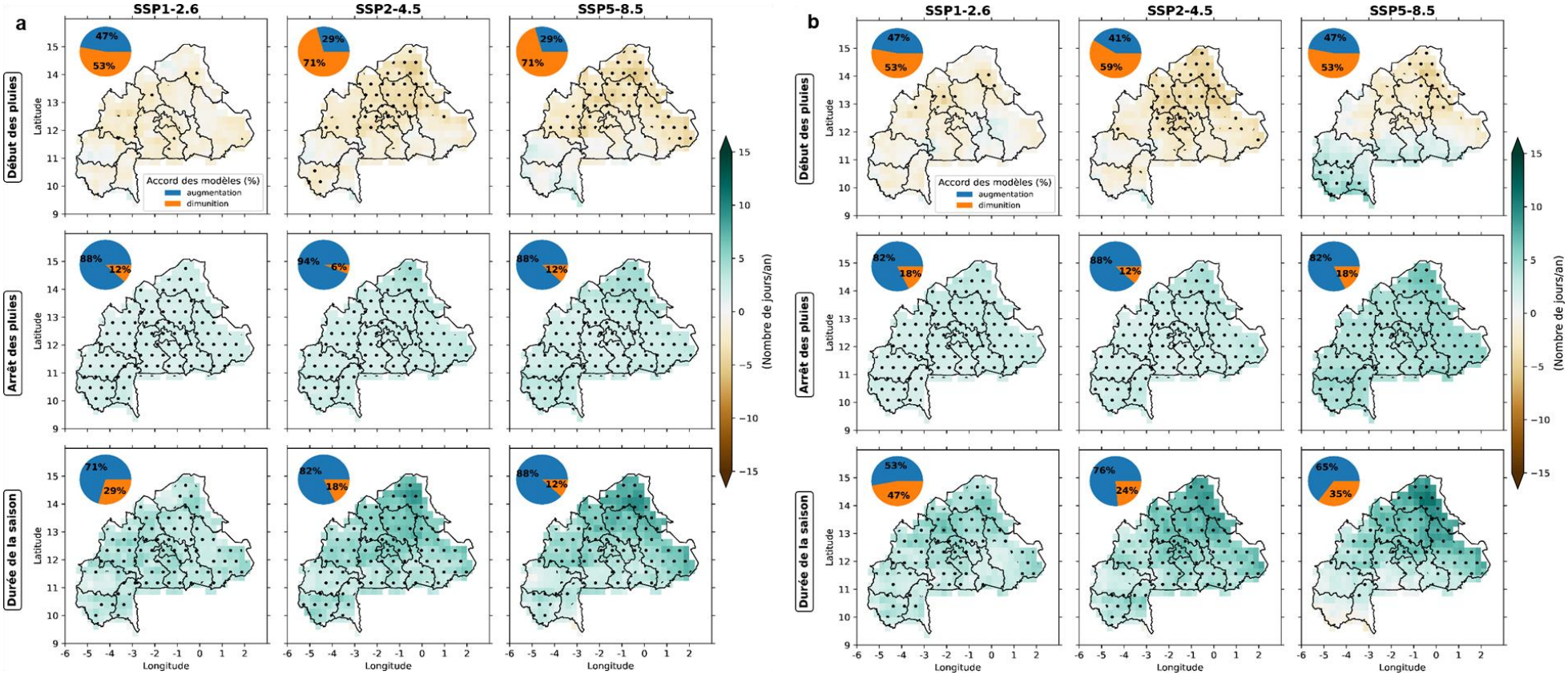

Diagram 98 : a) projected changes in the average of all models start, stop and duration across Burkina Faso ; b) similar to diagram a, but for the far future (2051-2080).

Source : MEEA (2024b).

- **Floods**

The number of extreme rainy days is expected to increase to 3 days in SSP5-8.5 by the end of the century. A significant increase in extreme rainfalls is expected in all regions of the country (MEEA 2024b). This trend could favor flood risks, the models of which project a significant increase in all regions of Burkina Faso (Diagram 99). This is especially clear in the SSP5-8.5 scenario where on average flood risk is expected to increase by more than 20% in the far future. The north and east of the country are expected to see a higher increase. According to Sawadogo et al. (2024), over the period 2031-2060, the northern part of the country would experience an increase in floods of up to 15%, while in the period 2071-2100, most parts of the country could be at risk.

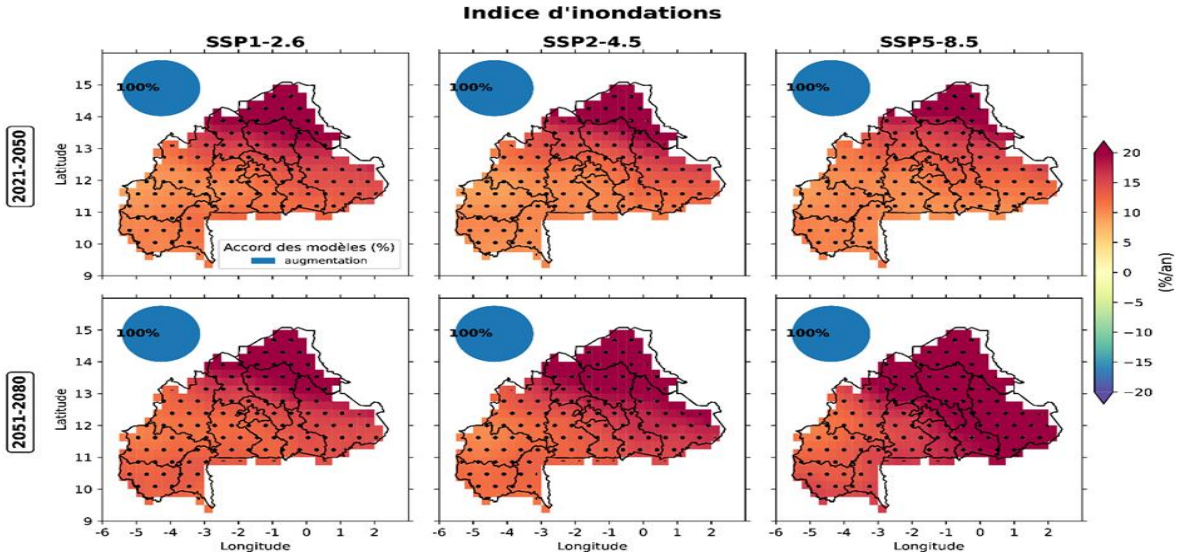

Diagram 99 : Projected changes in the average of all models of flood index across Burkina Faso
Source: MEEA (2024b).

- **Thermal stress**

The number of days of heat stress is expected to increase in the country, especially under the SSP5-8.5 scenario with a projected increase of 84 days over the period 2051-2080 and 65 days from 2021-2050. In addition, the work of Sawadogo et al. (2024) show an increase of about 160 days of heat stress per year for the period 2071-2100 in the high emission scenario (Diagram 100). The increase in the number of days of heat stress will be lower in the northern regions of the country in all scenarios and all periods.

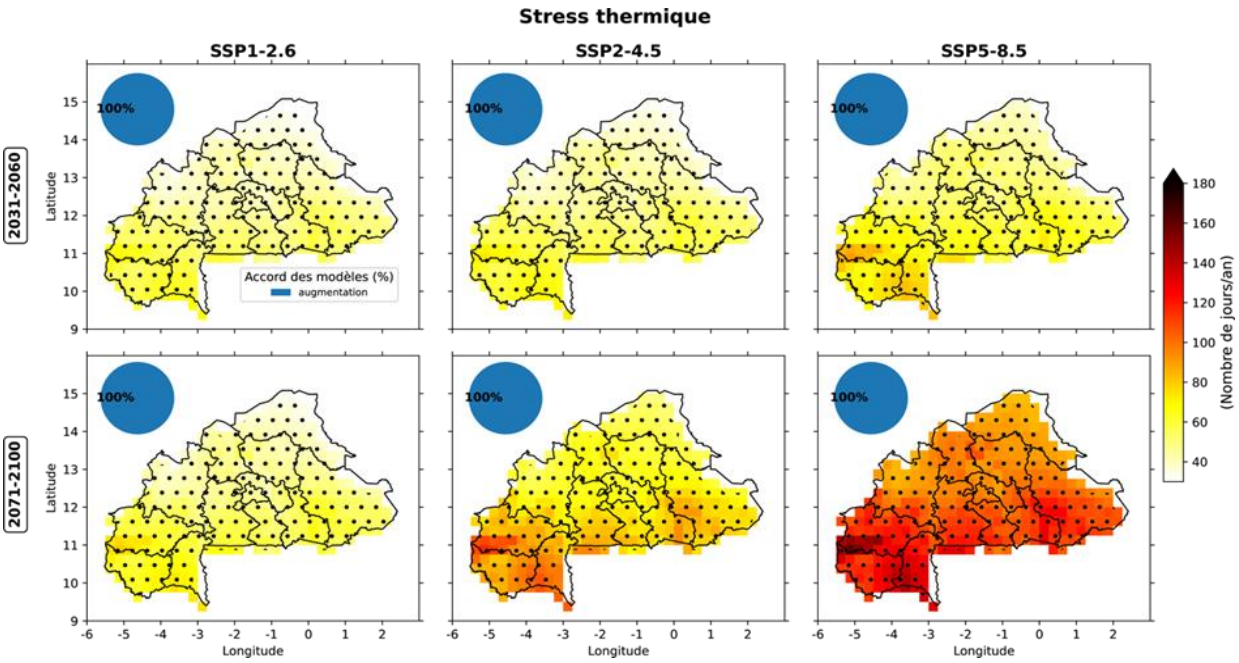

Diagram 100 : **Projected changes in the average of all models of thermal stress across Burkina Faso**
Source: MEEA (2024b).

3.2.4 Observed and potential impacts of climate change, including sectoral, economic, social and/or environmental vulnerabilities

The main development sectors identified in the revised NAP (2024-2028) have been considered in this section. From collected data analysis, we note that development sectors in Burkina Faso are impacted by climate change effects and present varying vulnerability levels. A summary of impacts, vulnerabilities and risks for development sectors is presented in Table 44. Most sectors have a high to very high vulnerability level. However, there is a need for more in-depth vulnerability studies at the national level for sectors such as transportation, health, infrastructure and housing, and energy.

At the population level, farmers and stockbreeders are more vulnerable to climate risks. The same is true for people with reduced mobility, the elderly and women.

Table 44 : Summary of impacts, vulnerabilities and risks in sectors

Climate risks	Major impacts		Vulnérabilité	
	Observed	Potential	Actuelle	Projetée
Agriculture				
Droughts	- Crop losses - Crop yield decrease - Disturbance in agricultural calendar - Soil quality degradation	Reduced crop yields due to soil degradation ; Limited availability of water for irrigation, thus reducing agricultural production and exacerbating food insecurity.	Very high	Very high
Floods and heavy rains	- Destruction and crop losses - Water erosion on croplands	A projected increase in flooding is likely to exacerbate agricultural land degradation through water erosion and crop losses	Very high	Very high
Heat Stress (severe heat)	- Evaporation and reduction of soil moisture - Plant thermal stress	Reduced crop yield due to reduced soil moisture resulting from increased evaporation by severe heat.	Very high	Very high
Livestock and fishery resources				
Droughts	- Losses of livestock and fishery resources - Drying of pastoral water points - Fodder land degradation - Reduction in livestock and fish production	Decline in livestock and fishery production following the decrease in fodder areas and drying up of water reservoirs, resulting in an increase in prices of livestock and fishery products.	Very high	Very high
Floods and heavy rainfalls	- Water erosion on croplands - Flooding of enclosures - Silting of water points due to heavy rainfalls	Heavy rains and flooding are expected to exacerbate degradation of pastoral lands and silting of water points by water erosion.	Very high	Very high
Heat Stress (severe heat)	- Heat stress and diseases of farm animals - Drying up of water bodies due to evaporation	Rising temperatures could lead to a rapid drying up of water bodies and disappearance of some fish species	Very high	Very high
Water resources				

Droughts	- Decrease in surface water resources - Decrease in groundwater level - Water shortage - Higher demand for water resources	Risk of exacerbation of water deficit and water shortages due to droughts and high demand	Very high	Very high
Floods and heavy rainfalls	- Erosion and silting of dams - Overflow of water reservoirs - Pollution of ground and surface water	Expected increase in floods and heavy rainfalls may accelerate silting of water reservoirs with intensified water erosion.	Very high	Very high
Heat Stress (severe heat)	- Drying up of water bodies due to evaporation	Acceleration of drying up water bodies due to evaporation with an increase in thermal stress days	Very high	Very high
Infrastructure and housing				
Droughts	- Decrease in water availability for construction of socio-economic and housing infrastructures	In the future, droughts could further reduce water availability for construction of socio-economic and housing infrastructures	Average	Average
Floods and heavy rainfalls	- Damage to existing socio-economic infrastructures. - Destruction of housing especially in precarious districts	Increased rainfall and flooding intensity is expected to exacerbate destruction of socio-economic and housing infrastructures	Very high	Very high
Heat Stress (severe heat)	- Weakening of infrastructure and housing - Thermal discomfort in housing	Expected increase in number of days for heat stress is expected to exacerbate the weakening of infrastructure and housing and thermal discomfort in housing	Average	Average
Health				

Droughts	- Water shortage - Famine - Loss of life - Ingestion of unsafe drinking water	Increase in morbidity and mortality rates caused by water scarcity, famine and epidemics caused by contaminated water consumption	Very high	Very high
Floods and heavy rainfalls	- Flood in healthcare centers - Disruption of access to health services - Increase in vector-borne, waterborne and diarrheal diseases	Increase in vector-borne diseases	Very high	Very high
Heat Stress (severe heat)	- Loss of human lives - Increased morbidity and mortality from epidemic diseases - Mosquito proliferation - Heat stroke	Increased loss of lives due to epidemic diseases and heat stroke, especially among poor populations with limited access to healthcare.	Very high	Very high
Energy				
Droughts	- Reduced efficiency of thermal and solar power plants.	Reduced efficiency of thermal and solar power plants.	High	High
Floods and heavy rainfalls	- Flooding of power plants - Interruption in electricity supply; - High demand in gas - Damage to power distribution equipment	Destruction of equipment and power plants due to recurrent flooding	Very high	Very high
Heat Stress (severe heat)	- Increased demand for cooling - Increased demand for cooling - Power cuts due to higher demand for energy	High temperatures can reduce efficiency of thermal and solar power plants and increase electricity demand.	Very high	Very high
Environment/ Natural resources				

Droughts	- Degradation of vegetation cover - Reduced potential for non-wood forest products - Drying up of water points - Depletion/disappearance of certain forest and wildlife species - Higher anthropic stress on natural resources	Gradual land degradation Depletion/disappearance of certain forest and wildlife species Decrease in production of forest resources Appearance of pathologies affecting certain forest and wildlife species diminishing their production capacity. Amplification of anthropic pressure	Very high	Very high
Floods and heavy rainfalls	- Land degradation by water erosion (gullying)	Increased risk of land degradation through gullying	Very high	Very high
Heat Stress (severe heat)	- Degradation of vegetation cover due to reduction of soil moisture through evaporation - Drying up of water bodies due to evaporation - Appearance of pathologies affecting certain forest and wildlife species - Thermal stress affecting flora and fauna	Intensification of land degradation and drying up of water bodies, and proliferation of animal and plant pathologies following the projected high heat	Very high	Very high
Transportation				
Droughts	- Weakening of road Infrastructures	Risk of weakening transport infrastructure following droughts	Low	Low
Floods and heavy rainfalls	- Disruptions of transportation networks - Weakening of road Infrastructures	Projected increase in flooding and extreme rainfall risks accelerating degradation of road infrastructures and increasing disruptions to road transport network.	Very high	Very high
Heat Stress (severe heat)	- Weakening of road Infrastructures - High demand for cooling in transport due to thermal discomfort	Degradation of transport infrastructure and increase in cooling demand with an increase in high heat	Low	Low
CSOs				

Droughts	- Reduced funding ; - Reduction in organization dynamism - Reorientation of assigned objectives to integrate drought risks	Risk of reorienting assigned objectives and losing funding to the detriment of CSOs committed against climate change	Average	Average
Floods and heavy rainfalls	- Reduced funding, - Reduction in organization dynamism - Reorientation of assigned objectives to integrate flooding risks - Flooding of CSO headquarters	Risk of reorienting assigned objectives and losing funding to the detriment of CSOs committed against climate change	Average	Average
Heat Stress (severe heat)	- Reduced funding, - Reduction in organization dynamism ; - Reorientation of assigned objectives to integrate heat stress risks	Risk of reorienting assigned objectives and losing funding to the detriment of CSOs committed against climate change	Average	Average
Gender				
Droughts	- Impoverishment - Dropping out of school by girls to meet family needs - Increase in women's workloads - Men's migration	Risk of eroding social cohesion, collapse for local economy and increasing social conflicts	Very high	Very high
Floods and heavy rainfalls	- Impoverishment	Increased risk of impoverishment for women	Very high	Very high
Heat Stress (severe heat)	- High exposure to heat stroke with dangerous health impacts for women, especially elderly women and pregnant women	Increased heat stress and heat stroke with dangerous health impacts for women	Very high	Very high

Source : MEEA, NAP, BTR1, 2024

3.2.5 Approaches, methods and tools, related uncertainties and challenges

In this report, information on climate trends and risks is derived from climate data processing, perception surveys and expert consultation. Climate data are from National Meteorological Agency of Burkina Faso (ANAM) and cover all 10 synoptic stations and operational rainfall stations in the country. These climatic data were processed using software and platforms such as RCLIMDEX and R. Low number of synoptic stations in relation to national territory and quality of climatic data are uncertainty factors to be taken into account in obtained results. This quantitative approach by statistical processing requires a large amount of climatic data and quite advanced expertise in the use of software and processing and analysis programmes. There is therefore a need for a network of operational synoptic stations well distributed in number in the country, and know-how in station maintenance, data processing and collection. The results of household questionnaire surveys are influenced by local perception, and it is expensive and requires a lot of financial resources and intensive fieldwork. Interviews also depend on the number and experience of experts.

- **Current climate trends and risks**

A quantitative approach was adopted for the analysis of current climate trends and risks. The results obtained come from statistical processing of climate data using software and platforms such as RCLIMDEX and R. These data are from the National Meteorological Agency of Burkina Faso (ANAM) and cover all 10 synoptic stations and operational rainfall stations in the country.

- **Projected climate trends and risks**

This report benefited from the work of MEEA (2024b) and Sawadogo et al. (2024) for the periods 2021-2050 and 2051-2080. The results are derived from a quantitative approach by processing projected climate data using the Fortran Programme for calculating climate indexes/risks and Python for visualization. The projected data are derived from the CMIP6 (coupled Model intercomparison Project Phase 6) climate models, developed according to Shared socio-economic pathways (SSP) scenarios. Future climate projections were calculated using NASA Earth Exchange (NEX), Global daily downscaled projections (GDDP) or NEX-GDDP-CMIP data. These data are CMIP6 (coupled Model intercomparison Project Phase 6) statistically reduced to a resolution of 25 km (Thrasher et al., 2022). They were produced for three SSP climate scenarios (SSP1-2.6; SSP2-4.5 and SSP5-8.5) and two future periods (2021-2050: Near future; 2051-2080: Far future), with 1985-2014 as the reference period. SSP1-2.6 most closely reflects the Paris Agreement target of 2°C, as it induces low GHG emissions and warming below +2.0°C by 2100. SSP2-4.5 implies an intermediate level of emissions and a warming of approximately +2.7°C to +3.4°C. SSP5-8.5 is the scenario of high GHG emission with a warming of +4.4°C by 2050. For climate projections, the average of all models was used because it provides better performance than a single model (Sawadogo et al., 2019). It also provides better results in terms of long-term climate change projections than any other single model (Houghton et al., 2001). However, 80% of the models must agree on sign of the changes to be considered strong changes (Fischer et al., 2014). Table 45 presents a list of used models for projections in Burkina Faso.

Table 45 : List of CMIP6 models used for climate projections

Climate Model	Model name/Description
CCESS-CM2	Australian Community Climate and Earth System Simulator Climate Model version 2
ACCESS-ESM1-5	Australian Community Climate and Earth System Simulator Earth System Model version 5
BCC-CSM2-MR	Beijing Climate Center – Climate System Model version 2 – Medium Resolution
CanESM5	The Canadian Earth System Model version 5
CMCC-CM2-SR5	Euro-Mediterranean Centre on Climate Change Climate Model version 2
CMCC-ESM2	Euro-Mediterranean Centre on Climate Change Coupled Climate Model – Earth System Model version 2
GISS-E2-1-G	Goddard Institute for Space Studies
HadGEM3-GC31-LL	Hadley Centre Global Environment Model in the Global Coupled Configuration 3.1
MIROC6	Model for Interdisciplinary Research on Climate, Earth System version 6
MIROC-ES2L	Model for Interdisciplinary Research on Climate, Earth System version 2 for long-term simulations
MPI-ESM1-2-HR	Max Planck Institute Earth System Model – high resolution
MPI-ESM1-2-LR	Max Planck Institute Earth System Model – low resolution
MRI-ESM2-0	The Meteorological Research Institute Earth System Model Version 2.0
NorESM2-LM	The Norwegian Earth System Model version 2 - low atmosphere, low ocean resolution
NorESM2-MM	The Norwegian Earth System Model version 2 – medium atmosphere, medium ocean resolution
TaiESM1	Taiwan Earth System Model version 1
NESM3	Nanjing University of Information Science and Technology Earth System Model version 3

Source: MEEA, (2024b)

- **Current and future vulnerability**

Information on current and future vulnerability presented in this report is drawn from vulnerability studies conducted in Burkina Faso regions. To this end, a quantitative approach has been adopted through the conceptual framework for vulnerability analysis described in the IPCC Fourth

Assessment Report. Under this framework, vulnerability depends on exposure, sensitivity and adaptive capacity. On the one hand, processing of climate data has been associated with population perception surveys for assessing population vulnerability. To this end, individual questionnaires were deployed for household surveys. This method requires intensive fieldwork and is demanding in financial means. Uncertainties about this method lie in climate data quality and the fact that it is influenced by local perception. On the other hand, climate data processing and expert consultation were used to assess vulnerability of development sectors. A vulnerability assessment sheet was submitted to experts from universities, research centers and government departments. This approach has also been applied to future vulnerability by combining regional climate projections with expert consultation. However, in addition to current climate data quality and divergence/convergence in climate models, the number and experience of experts are also sources of uncertainty and may influence assessment quality.

- **Current and future impacts**

Information on current impacts comes from a quantitative approach based on population surveys by questionnaire. Data were also collected using a qualitative approach through interviews with experts and direct observation. The latter was also used to assess future impacts. Limitations and uncertainties for these methods are mentioned in the previous sections. In addition, modeling using artificial intelligence algorithms was also used to determine projected climate change impacts.

Ultimately, collected data do not cover all 13 administrative regions of the country. Then, only a few locations have been investigated because of insecurity and, above all, very limited financial resources. There is therefore a need to conduct a more holistic and comprehensive study that covers all regions in the country.

Current climate data are available at ANAM level, which is being strengthened with WASCAL support and HYDROMET project (Climate resilience strengthening Project in Burkina Faso). The projected climate data are also available via online download. In addition, national expertise is being strengthened for the processing and analysis of these data. Despite the financial resources required, combination of climate data processing with population perception surveys and expert consultation seem more suitable in Burkina Faso for assessing climate risks, trends, impacts and vulnerabilities. Table 46 lists all approaches and methods used for this report, as well as the associated difficulties.

Table 46 : Synthesis of approaches, methods and tools for assessing climate trends, risks and vulnerabilities in Burkina Faso

	Approaches	Methods	Tools	Constraints	References
Current climate trends and risks	Quantitative	Statistical processing of climatic data from synoptic stations	RClimDex and R.	Large amount of data to process Requires advanced expertise	MEEA (2024b) Zoungrana et al. (2023a) MEEEA (2022)
		Population perception survey by questionnaire	Individual questionnaire	Depends on local perception Demanding in financial means Intense field work	MEEA (2024b); Zoungrana et al. (2023a)
	Qualitative	Population perception survey by focus group discussion	Maintenance guide	Depends on local perception Demanding in financial means; Intense field work	Dayamba et al. 2019.
		Consultation with experts/resource persons	Maintenance guide	Depends on local perception	Dayamba et al. 2019.
Projected climate trends and risks	Quantitative	Treatment of Regional Climate Model (RCM) projections under SSPs scenarios	Fortran and python for calculating climate indexes	Large amount of data to process; Requires advanced expertise; Limited number of experts	Sawadogo et al. (2024) MEEA (2024b) MEEEA (2022)
Current impacts	Quantitative	Population perception survey by questionnaire	Individual questionnaire	Depends on local perception; Demanding in financial means; Intense field work	Dayamba et al. (2019); Zoungrana et al. (2023a)
	Qualitative	Population perception survey by focus group discussion	Maintenance guide	Depends on local perception; Demanding in financial means; Intense field work	Somda et al. (2014); Zoungrana et al. (2023a)
		Consultation with experts/resource persons	Maintenance guide	Depends on experts' experience/knowledge	Dayamba et al. (2019)
		Direct observation	Instant print cameras and other cameras	Field work	Zoungrana et al. (2023a)

	Approaches	Methods	Tools	Constraints	References
Future impacts	Quantitative	Modeling	Simulation model ; artificial intelligence algorithms	Large amount of data to process Requires advanced expertise	Zoungrana et al. (2024); Zoungrana et al. (2018); MEEEA (2022)
	Qualitative	Consultation with experts/resource persons	Maintenance guide	Depends on experts' experience/knowledge.	Zoungrana et al. (2023a)
Current vulnerabilities	Quantitative	Combination of climatic data processing with questionnaire-based population perception survey.	RClimDex and R.; Individual questionnaire and vulnerability matrix	Depends on local perception Demanding in financial means Intense field work.	Somda et al. (2014); Zoungrana et al. (2023b)
		Combination of climatic data processing and consultation of experts/resource persons.	RClimDex and R.; Vulnerability Assessment Sheet and Vulnerability Matrix	Depends on climate data quality, and experts number and experience/knowledge	Zoungrana et al. (2023a); LAME (2011)
		Modeling	Simulation templates	Large amount of data to process; Requires advanced expertise	MEEEA (2022)
	Qualitative	Population perception survey by focus group discussion	Maintenance guide	Depends on local perception; Demanding in financial means; Intense field work	Somda et al. (2014)
Future vulnerabilities	Quantitative	Consultation of experts/resource persons and processing of projections on regional climate models.	Vulnerability Assessment Sheet ; Fortran and python for calculating climate indexes.	Depends on experts' experience/knowledge; Requires advanced expertise	LAME (2011) Zoungrana et al. (2023a) and (2023b) GGGI (2024)
		Modeling	Simulation templates	Large amount of data to process; Requires advanced expertise	MEEA (2022)

Source : Survey data

3.2.6 Adaptation priorities and barriers

3.2.6.1 National priorities and progress towards achieving these priorities

Burkina Faso's national priorities for adaptation to climate change are varied, and aim to strengthen the country's resilience in the face of climatic impacts. These priorities are integrated into Burkina Faso's National Adaptation Plan (NAP), which aims to coordinate and strengthen adaptation efforts across the country. Table 47 summarizes national priorities and progress made therein.

Table 47 : Burkina Faso's national priorities for adaptation to climate change

National priorities	Achieved progress	Action/indicators
- Ensuring sustainable food and nutrition security; - Preserve water resources and improve access to sanitation; - Protect people and property from extreme weather events and natural disasters ; - Protect and improve functioning of natural ecosystems; - Promoting and supporting population health.	**<u>Progress I</u>** : Adaptation planning and implementation	- National Adaptation Plan (NAP) Burkina Faso is in its second NAP (NAP, 2015-2020; NAP, 2024-2028), which identifies vulnerable sectors and proposes specific adaptation measures. - Regional adaptation Plan (RAP) : For its second NAP the country opts for a bottom-up approach by developing four (04) RAP taking into account the specificities of the regions and by developing manuals and guides facilitating integration of adaptation into local planning. For effective adaptation implementation, the country has: - established a NAP coordination mechanism - established a bottom-up monitoring-evaluation system - developed a three-year action plan for NAP implementation ; - harmonization of sectoral monitoring NAP indicators ; - gender-sensitive disaggregation of NAP monitoring indicators ; - formalization of consultation frameworks on adaptation ; - Formalization of Technical Monitoring Committee and Technical working Groups on adaptation. These efforts demonstrate Burkina Faso's commitment to reducing its vulnerability to climate change impacts and integrating adaptation into its development goals.
		- Burkina Faso has improved its climate information systems to better predict and manage climate risks through : - implementation of 150 hydrological equipment and 35 synoptic stations for a better network in the country;

National priorities	Achieved progress	Action/indicators
	Progress II : Strengthening climate information systems	- rehabilitation of priority stations, installation of new sensors, new rain gauges in flood-prone areas, a new radiosonde system and new automatic hydrometric stations; - building a common data platform for archiving and sharing climate data ; - hydrological and meteorological modeling and forecasting at ANAM and DGRE; - 230 automatic weather stations for daily and seasonal forecasts that produce; - two daily weather reports (12h and 18h) ; - a weekly weather report - an agrometeorological bulletin; - a seasonal newsletter - alerts on extreme weather events - these bulletins are essential for the planning of day-to-day activities and management of risks related to weather conditions.
	Progress III : Financial mechanisms	For the effective mobilization of financial resources, the country has adopted several instruments: - development of a resource mobilization strategy for the NAP - development of adaptation concept notes to be submitted to the GCF ; - approval of two country adaptation projects by the GCF (HYDROMET; YELEN) ; - development of seven Readiness Programmes - accreditation procedure for two national entities ; - climate and gender-responsive budgeting - Country memberships to local and LIFE-AR initiatives for effective long-term resilience ; - development of a mechanism to monitor adaptation financial flows ;

National priorities	Achieved progress	Action/indicators
		- development of an NAP Investment Plan. Although progress has been made, funding remains a major challenge. The financial resources available are not always sufficient to cover adaptation needs, limiting the implementation of some key actions.
	<u>Progress IV</u> : Capacity building	In terms of capacity building to achieve its adaptation priorities Burkina Faso has made progress in the following areas: - climate information: climate information systems have been strengthened to provide accurate and real-time data; - human and institutional capacities: training of government actors and building strong institutional frameworks to support adaptation to climate change; - Long-term vision: Burkina Faso is in its second NAP with a specific consideration at subnational and gender level; - implementation: Establishment of strong organizational frameworks (NACC; CCUC; CRD) - Integrating adaptation into planning: Adaptation to climate change has been integrated into several key sectors, such as agriculture, water, health, environment and natural resources; - Stakeholder participation: Local communities, the private sector and NGOs were involved in the adaptation process; - Monitoring-Evaluation Strengthening the system to provide accurate data. However, progress remains weak in implementation, participation and monitoring and evaluation, while progress is significant in climate information, human capacity and long-term vision. This is justified by the fact that the NAP monitoring and evaluation mechanism is not operational and also the existing monitoring and evaluation systems

National priorities	Achieved progress	Action/indicators
		at national level and in planning of sectoral ministries do not sufficiently include indicators specific to climate change adaptation.
	Progress V : NDC and PNA implementation	- At the time of NAP, 2015 evaluation, out of a total of 143 planned actions covering all priority sectors in Burkina Faso, 96 actions have been carried out at a rate of 67%, compared to 47 actions whose launch had not yet begun, a rate of 33% (NAP Evaluation Report, 2021). - For adaptation actions under the NDC 2015-2020, the country's commitment in terms of GHG reduction was 43.707Gg CO_2eq in 2030, the level of achievement is 89% in 2020, a reduction of 38,898 Gg CO_2eq in GHGs (NDC Evaluation Report, 2021). - For NDC 2021-2025, the country took an option of strengthening its resilience through the implementation of adaptation projects. The reduction potential is estimated at 33072.72Gg or 30.76% of baseline scenarios.

Source : MEEA, BTR1, 2024

3.2.6.2 Challenges, gaps and barriers to adaptation

3.2.6.2.1. Adaptation challenges in Burkina Faso

From the diagnostic analysis of adaptation capacities to climate change, three major challenges emerge. These challenges are linked to: (i) strengthening adaptive capacities in priority sectors, (ii) developing research into adaptation to climate change, and (iii) governance for adaptation to climate change.

- ***Strengthening adaptive capacities in priority sectors***

These capacities are essential to reduce vulnerability to climate risks and strengthen actors' resilience to climate change. This requires developing crop varieties adapted to climate change, promoting adoption of rational water resource management methods, improving people's access to health services and building climate-resilient infrastructure.

- ***Research development on climate change adaptation***

To improve resilience and adaptation to climate change, innovative adaptation techniques and technologies should be developed and the adoption of such techniques and technologies by actors should be improved.

- ***Climate change adaptation governance***

Strengthening governance in climate change adaptation area therefore calls for revitalizing consultation frameworks for implementing actors, holding periodic monitoring meetings and developing legal instruments favorable to climate change adaptation actions.

3.2.6.2.2. Adaptation challenges in Burkina Faso

NAP implementation evaluation over the period 2015-2020 identified several shortcomings, including:

- A lack of NAP knowledge by some actors responsible for its implementation;
- inadequacy gender-responsive consideration in monitoring NAP implementation actions;
- Failure to operationalize the institutional mechanism for monitoring and evaluating the NAP ;
- Inadequate monitoring of gender-related NAP actions;
- Insufficient financial resources to implement adaptation actions, weak institutional capacities.
- Insufficient climate data;
- Insufficient awareness-raising and training on climate change impacts and adaptation measures.

However, the implementation of the Readiness NAP (2022-2024) mobilized by Burkina Faso with GCF has helped to fill some of these gaps. Nevertheless, strengthening institutional capacity,

mobilizing financial resources, improving data collection and raising awareness remain challenges for our country's effective adaptation to climate change.

3.3 Adaptation barriers in Burkina Faso

As barriers to adaptation in Burkina Faso, we can note:

- Security situation in the country, which makes certain areas of the country inaccessible for implementing resilience actions provided for in the NAP;
- Insufficient financial resources for NAP implementation.
- Insufficient scientific data on climate ;
- difficult access for actors to climate data;
- lack of institutionalization of climate data sharing between agencies;
- lack of consideration of adaptation priorities in national and sectoral policy documents;

With the aim of strengthening the country's capacity for adaptation, the implementation of the Readiness NAP (2022-2024) and CBIT initiative has made it possible to fill some of the gaps. In addition, the introduction of MRV system and platforms (MRV, ONEDD, adaptation website) will facilitate climate data sharing.

3.4 Adaptation strategies, policies, plans, objectives and measures for integration into national policies and strategies

As part of climate change adaptation integration into development frameworks in Burkina Faso, several adaptation plans, policies, strategies and measures have been developed to improve the population resilience to climate change impacts. These documents contain adaptation measures and actions that are implemented on the ground through projects and Programmes for the benefit of populations. These interventions improve the adaptive capacity of beneficiary populations, strengthen their resilience, reduce their vulnerability to climate change and contribute to sustainable development.

3.4.1. Adaptation policy documents and strategies

As part of developing climate change policy documents and strategies, the country has built on achievements of National Action Programme for adaptation to Climate variability and Change (NAPA) projects. Also, the country has initiated a NAPs regionalization dynamic through realization of four (4) vulnerability studies, development of four (04) Regional adaptation plans (RAP) for the benefit of four of the thirteen regions covered by the country.

In addition, the development of guides for integrating adaptation to climate change into local development frameworks (Regional and communal adaptation plans) represents a significant step forward in terms of integrating adaptation into the country's overall policy.

The summary of plans, policies and strategies related to adaptation to climate change is as follows :

- ***The Second National Economic and Social Development Plan (PNDES II, 2021-2025)***

Adopted in 2021, the PNDES II National Development Framework aims to make Burkina Faso "a nation of solidarity, democracy, resilience and peace, transforming its economy structure to achieve strong, inclusive and sustainable growth". It has therefore set itself the objective of restoring security and peace, strengthening the nation resilience and structurally transforming Burkina Faso economy, for strong, sustainable and inclusive growth.

According to this framework, climate change is one of the risks that can jeopardize economic and social development. Therefore, mitigation or adaptation measures are planned. Therefore, strategically, the implementation of the plan will help reverse the trend degrading environment and natural resources to promote climate resilience and reduce greenhouse gas emissions.

Through its strategic axes 3 "consolidating development of human capital and national solidarity" and 4 "boosting sectors with strong economic and employment potential", the plan aims to improve climate resilience in communities, sectors and priority areas. Also, the plan specifies in its strategic objectives 3.3 : "promoting research and innovation and strengthening their use for economic transformation", 3.6 : "improving living environment, access to drinking water, sanitation and quality energy services", 4.1: "sustainably develop a productive and resilient agro-sylvo-pastoral, wildlife and fisheries sector that is more market-oriented" and 4.5 "reverse the trend of environmental and natural resource degradation to promote climate resilience and reduce greenhouse gas emissions". PNDES II is accompanied by an implementation instrument, the Stabilisation and Development Action Plan (PA-SD).

- ***National Sustainable Development Policy***

The National Sustainable Development Policy (PNDD), adopted in 2013, aims "by 2050 to make Burkina Faso an emerging country within the framework of sustainable development where all sectoral strategies, all development plans and Programmes contribute to improving standard and quality of life for populations, especially the poorest. It sets out the country's main policy on sustainable development.

In its vision of sustainable development, "Burkina Faso intends to have production and consumption patterns that allow an ever-growing Burkinabe population to live decently in a space-time with limited natural resources and under climate change constraints".

The purpose of the National Sustainable Development Policy is to define overall framework for implementing sustainable development in Burkina Faso. It lays down general guidelines for development and supervision of sectoral policies, strategies, plans and Programmes for development, as well as planning and budgeting at both national and decentralized levels.

- ***National Climate Change Adaptation Plan (NAP, 2024-2028***

Aware that climate change issues can jeopardize its socio-economic development, Burkina Faso adopted its first NAP in 2015. Revised in 2024, this plan contains 121 short-, medium- and long-term adaptation measures and strategies for all sectors of NAP with the objective of improving resilience of population and ecosystems to future climate change impacts. The vision of the NAP is that: By 2028, Burkina Faso will have strengthened its institutional and community capacities

for proactive and resilient management of climate impacts through integrated planning and innovative projects." To achieve this vision, NAP has set itself the overall objective of strengthening resilience of populations and ecosystems to climate change for inclusive and sustainable growth in Burkina Faso.

In terms of strategic axes, the NAP is built around three (03) main axes: (i) adaptation of priority sectors to climate change; (ii) climate change adaptation research/development; and (iii) governance of climate change adaptation interventions.

Each of these axes is broken down into strategic objectives and then into expected effects.

For its operationalization, NAP is accompanied by a three-year action plan (2024-2026) and an investment plan (2025-2027).

- ***Nationally Determined Contribution (NDC, 2021-2025)***

Burkina Faso, under its new ambitions, considered an unconditional scenario and a conditional scenario. The country commits, in relation to its mitigation actions, to reduce its GHG emissions by 31682.3 Gg-Eq-CO_2 by 2030 or 29.42% compared to the Business as usual scenario. This commitment is 21074.94 Gg-Eq-CO_2 for the unconditional scenario or 19.60% and 10557.91 Gg-Eq-CO_2 for conditional scenario or 9.82%. Compared to 2015 NDC of 18.2%, Burkina Faso has increased its ambitions by 11.22%.

In addition, the country has taken the option of strengthening its adaptation and resilience by implementing 63 integrated adaptation actions whose potential to reduce GHG emissions is estimated at 33072.72 Gg-Eq-CO_2 or 30.76% compared to the Business as usual scenario. Adaptation measures with mitigation co-benefits include:

- practices for recovering degraded land coupled with climate-smart agriculture. These practices include half-moons, stony cords, diguettes, drip irrigation, etc.;
- mobilizing water resources;
- providing producers with improved seeds adapted to climate change;
- etc.

- ***Agro-forestry-pastoral sectoral policy (2017-2026)***

Adopted in 2017, this policy vision is as follows: "By 2026, the agro-sylvo-pastoral sector is modern, competitive, sustainable and the engine of economic growth, based on family farms and efficient businesses and ensuring that all Burkina nationals have access to the food they need for a healthy and active life."

Indeed, according to this policy, Burkina Faso agriculture is essentially rainfed and is highly dependent on climatic hazards, including floods, droughts and strong winds. Variability in rainfall annihilates the development efforts in the sector. This is why it has set itself the goal of

contributing to food and nutritional security for vulnerable populations in a context of climate change.

- ***Sectoral policy water, sanitation and environment (2018-2027)***

The objectives of the water, sanitation and environment sector policy are "to ensure access to water, a healthy living environment and to strengthen environmental governance and sustainable development with a view to improving the economic and social conditions of the population". These objectives stem from a vision of ensuring that "by 2027, daughters and sons of Burkina Faso have equitable access to water, a healthy living environment and a quality environment".

This policy has a holistic vision of environmental management. In a holistic view of environmental management, issues related to climate change, eroding biodiversity, sustainable production and consumption patterns, land degradation, abusive and uncontrolled use of chemicals are integrated in the development process for inclusive green growth.

- ***Sectoral policy "Transport, communication and housing infrastructures (PSITCH, 2018 - 2027)"***

PITCH sector is vulnerable to adverse effects of climate change. Negative impacts on infrastructure could jeopardize achievement of sectoral policy objectives. Adaptation and mitigation need to be given high importance by national authorities in implementing different programmes and projects. This is why the country has adopted this plan, which aims to "develop sustainable and resilient transport, communication and housing facilities and infrastructures with a view to improving their accessibility to all socio-professional strata".

The vision of this policy is as follows: "By 2027, Burkinabe people will have access to sustainable and resilient transport, communication and housing infrastructures that promote structural transformation in the economy."

- ***Sectoral Research and Innovation Policy***

The general objective of this policy is to strengthen a productive system through generation and intensive use of research and innovation results. Beyond the cross-cutting nature of research that affects all sectors vulnerable to climate change, research in agricultural and environmental sciences, innovation and the valorization of research results are among its main areas of investigation.

With regard to adaptation, the policy indicates that disparity in potential of regions and the increasingly perceptible climatic variations with emergence of extreme events mean that scientific research and innovation are decentralized and adapted to meet development challenges.

This policy vision is that by 2026, "Burkina Faso has an efficient research and innovation system for socio-economic development."

- ***Gender and Climate Change Action Plan (2024-2026***

Adopted in 2024, the Gender and Climate Change Action Plan was developed to "ensure that gender is taken into account in climate policies, programmes and projects, in order to increase resilience of all social strata and categories for equitable and sustainable development in Burkina Faso".

For its operationalization, the plan proposes the following actions:

- strengthening the operational capacities of actors implementing NDC and climate policies/actions;
- capacity building for agencies and decision makers, technicians and populations for transformative gender climate actions;
- production of gender-responsive data for monitoring policies and programmes related to gender and climate change;
- establishment of an information system on gender and climate change in order to produce and make readily available statistics;
- popularization of innovations resilient to climate change and adapted to local contexts;
- support for the adoption of sustainable innovative techniques and technologies;
- review of national legal instruments on climate change to integrate gender issues;
- establish a pool of experts' platform (national, regional, local) on gender and climate change in the NDC sectors;

- strengthen institutional mechanism for monitoring and evaluation of climate policies and actions integrating gender;
- strengthen climate and gender action and policy planning;
- develop of preferential pricing mechanisms for climate-related technical interventions for the benefit of women;
- develop strategic tools for mobilizing financial resources.

- ***Low-carbon and climate resilient development strategy by 2050 (LT-LEDs)***

With a view to promoting low-carbon development and resilience to climate change, Burkina Faso has adopted a low-carbon and climate-resilient development strategy by 2050. Indeed, this policy vision is as follows: "By 2050, Burkina Faso, a nation where socio-economic development is inclusive, sustainable, low-carbon and climate resilient, generating green jobs and wealth in areas with a high environmental impact."

The long-term objective of Burkina Faso's LT-LEDs is to strengthen the government's capacity to plan for the decarbonization of its economy in the long term by providing a framework and pathway for a gradual review and strengthening of objectives of its nationally determined contribution (NDC) to reduce CO_2 emissions until 2050.

- ***Regional adaptation plans (***RAP***)***

In the context of future NAP reviews, Burkina Faso has adopted a regional approach to better take into account specificities of each region in terms of vulnerability and adaptation options to climate risks. It is in this vision that before developing each RAP, an assessment of the region vulnerability to climate risks is planned. Vulnerability studies identify adaptation priorities in the region by highlighting recurring climate risks and levels of vulnerability in development sectors, livelihoods and population groups. The ultimate goal of the vulnerability analysis is to develop a RAP to better combat climate change adverse effects and improve adaptation and resilience of local populations.

To date, the country has four (04) RAP for the Centre-West, Centre-South, Plateau Central and South-West regions. The objective is, through the regional approach, to achieve a NAP that results from compilation of country RAP for the 13 administrative regions.

- ***National Learning Strategy on Climate Change (2016-2025)***

Successful implementation of climate change adaptation actions and the development of a green, low-emission and climate resilient economy requires that a large proportion of the population have appropriate knowledge and skills on climate change. This need has been very well understood by the United Nations Framework Convention on Climate Change (UNFCCC), which devotes its Article 6 to public education, awareness and training. It is in this dynamic that Burkina Faso developed its National Climate Change Learning Strategy for the period 2016-2025.

The vision of this National Climate Change Learning Strategy for Burkina Faso is as follows: "By 2025, Burkina Faso has qualified human resources on climate change in order to sustainably support development process at national and local levels."

The 2 strategic axis of this strategy entitled "teaching and capacity building for different types of actors on climate change issue" identifies categories of actors whose capacity building for each of them represents an action subject. These actions are as follows:

Action 1: Strengthening the technical skills of policy makers and public administration and civil society actors on climate change issues. Through this action, it is expected that political decision-makers and administrative actors acquire the technical skills necessary to make right decisions and to develop and implement climate-sensitive development plans.

Action 2: Strengthening the technical and scientific skills of primary, secondary and tertiary teachers on climate change issues. This action aims to equip primary, secondary and tertiary teachers with the technical and scientific skills necessary to integrate climate change learning into their respective teaching.

Action 3: Strengthening technical and scientific capacities of climate change research institutions. This action aims to equip research institutes with infrastructure, equipment and human resources necessary for development and dissemination of good practices or measures for adapting to climate change and strengthening populations' resilience.

Action 4: Strengthening skills of local authorities for effective management of climate change in local planning. This action aims to equip local and regional authorities with the technical skills necessary for informed decision-making. It aims in particular to take adequate account of climate change in the development and implementation of local development plans.

Action 5: Technical capacity building for agricultural producer organizations (APOs), CSOs, local leaders and private sector. This action aims to equip leaders of peasant organizations and civil society organizations, local community and religious leaders and resource persons in private sector with necessary technical capacities to subsequently play the role of trainers of actors on the field.

Action 6: Strengthening operational field actors' capacities on different aspects of climate change. This action aims to support the training of field workers and mass training of producers on good practices and measures of adaptation to climate change in order to increase the resilience of communities and populations to climate shocks.

Action 7: Capacity building for climate information users. Capacity building for climate information users aims to equip decision makers, producers, disaster risk reduction actors and other development planners with the use of data produced by meteorological services to promote comprehensive development including disaster risk reduction.

After about 8 years of implementation, this strategy has not received enough necessary financial resources for effective implementation. Indeed, a document review is necessary and would allow shortcomings to be identified and lessons to be drawn for a possible revision of the strategy.

3.4.2. Integration of adaptation into development frameworks at national level

Efforts to mainstream adaptation are reflected in the adoption of several guides for mainstreaming climate change into public policies, broader national development strategies and local development plans.

To date, several municipalities in the country have integrated adaptation to climate change into their communal development plans. Adaptation actions integrated into local development frameworks have enabled local authorities to reduce climate risks and improve food security, public health and increased ecosystem resilience.

Indeed, since Burkina Faso ratified the United Nations Framework Convention on Climate Change in 1994, several adaptation efforts have been made to enable people to be more resilient to climate change effects. Thus, from 2010 onwards, this declared desire to take climate issues into account in national and local planning has materialized through development of a number of tools to promote integration of adaptation and resilience into local development plans.

These tools have been developed by several actors at the level of the State, civil society as well as technical and financial partners. Among these tools, there are about ten that are currently used in this process. These include:

- ***Practical guide to developing a local planning strategy integrating the link between human mobility, environment and climate change***

This guide, produced by the International Organization for Migration (IOM, 2020), aims to support local stakeholders, and in particular actors from local authorities and State decentralized agencies, in the development of concrete actions in response to joint challenges related to migration and environmental change.

In this regard, this guide proposes to accompany definition of local planning integrating dimension of environmental migration in order to have a comprehensive, mobilizing and inclusive action plan, based on facts and evidence. It allows to frame the definition of a local strategy integrating the link between migration and environmental changes built and integrated, ready to be adopted and implemented.

- ***Guide to integrating environment, sustainable development and sustainability into DPRs and PCDs***

This guide was developed in 2019 by the SP/CNDD to support local authorities in addressing environmental issues, including climate change. It provides guidance on emerging environmental themes to be integrated, tools and actions following the different phases and stages of development of LDPs. It is best suited to integrating climate change into LDPs.

- ***Booklet for integrating sustainable land management, wetlands, climate change, biodiversity, natural disaster risks into local development plans***

This document strengthened the methodological guide for local planning to take into account certain environmental themes such as land resources, biodiversity, wetlands as well as risks of natural disasters and climate change.

It was developed in 2012 with the aim of contributing to a better consideration of sustainable land management, biodiversity, wetlands, climate change and its implications for people's subsistence and livelihoods, and natural disaster risks in LDPs.

- ***TOPSECAC Toolkit***

This toolkit was developed by the International Union on Conservation of Nature (IUCN) in collaboration with its partners to facilitate the integration of climate change adaptation into development policies, plans, projects and programmes. It is a manual composed of 5 modules and 11 participatory tools. These tools take into account gender and make it possible to analyze the vulnerability and adaptive capacity to climate change of development plans, projects and programmes. They also integrate planning of adaptation actions as well as their monitoring-evaluation. This allows adjustments to be made for more adaptation and resilience to climate change.

- ***Training module on integrating climate change into local development plans (COM-SSA project)***

This training module was developed in 2021 within the framework of the Support Project for Mayors' Covenant (COM-SSA) implemented by the German cooperation GIZ. It has been

validated by the technical committee for the accreditation of training modules of the National School of Administration and Magistracy (ENAM). It includes nine (09) interdependent tools that lead to a climate adaptation and resilience plan.

To support local authorities, a pool of trainers is set up to lecture the module.

- ***Training manual to support the integration of the link between migration, environment and climate change in local planning in Burkina Faso***

This manual was developed as part of IOM's "Project to build local authorities' capacity in Burkina Faso in order to integrate migration, environment and climate change into local planning". It addresses integration of human mobility issues into environmental and climate change policies and integration of climate and environmental concerns into migration management processes.

It is designed to assist trainers in the participatory facilitation of workshops aimed at integrating environmental migration theme into local planning.

The objective of this manual is to support stakeholders for better local planning integrating migration and environmental issues into LDPs.

- ***Thematic training module on "integrating climate change into regional and local development plans"***

Integrating climate change into development planning process at all levels is a challenge for all countries, particularly Burkina Faso. This challenge is also found at the local level and deserves to be taken into account in planning tools. Hence developing this training module, of which the general objective is to build local actors the capacities to take into account climate change in DPRs and PCD.

Integrating climate change into LDPs must be an iterative and participatory process to transform ideas, policies, resource allocation and practices across sectors to achieve mitigation and adaptation outcomes.

3.4.3. Stakeholders in Climate Change adaptation Plan

The national climate change policy is led by the Ministry of Environment in collaboration with other actors from public administration, local authorities, private sector, NGOs and associations, universities and research centers, and technical and financial partners (TFPs).

The national climate change adaptation coordination mission has been entrusted to **Permanent Secretariat of the National Council for Sustainable Development (SP/CNDD)**, which is the focal institution for climate change in Burkina Faso. The SP/CNDD hosts the Focal point of the United Nations Framework Convention on Climate Change (UNFCCC), the Gender and Climate Change Focal point as well as the designated National Authority for Clean Development Mechanism (CDM) and Article 6 of the Paris Agreement. As such, it is responsible for coordinating development of reference frameworks related to climate change, including national communications, Nationally Determined Contribution, National adaptation Plan, the long-term

low-carbon strategy, etc. It also assists various sectors to integrate adaptation into their planning documents.

In addition to the SP/CNDD, other agencies are involved in the response to climate emergency.

General Directorate for Green economy and Climate Change (DGEVCC), which is a central agency of the Ministry of the Environment, is responsible for designing and monitoring implementation of national policy on green economy and climate change.

The Permanent Secretariat of Process to Reducing Emissions from Deforestation and Forest degradation (SP/REDD+) is responsible for coordinating all REDD+ preparation and implementation activities.

The Prime Ministry holds the presidency of the National Conference on Sustainable Development (CONADD) which assesses the state of sustainable development implementation in Burkina Faso. Depending on circumstances, the conference may address a specific theme, including climate change, and make recommendations to government. According to Orientation Law on Sustainable Development, it is planned to set up an Office of a General Commissioner for Sustainable Development. This body will have a monitoring and accountability role for sustainable development. The Prime Minister also hosts the **Executive Secretariat for Green Climate Fund**, which partly ensures mobilization of climate finance.

The Ministry of Economy and Finance participates in the fight against climate change through three (03) agencies: The Directorate General for cooperation (DGCOOP), Directorate General for economy and Planning (DGEP) and the Directorate General for Budget (DGB). The DGCOOP hosts adaptation Fund focal point and organizes negotiations contributing to mobilization of foreign aid and climate finance. The DGEP is responsible for monitoring SDGs and criteria, and indicators of Sustainable Development (IFSD).

Actors of local authorities (regions, municipalities, departments and decentralized State agencies) are an enormous force for supporting State policies through its representation at local level. When it comes to climate change, the local level appears to be an essential link. It allows development of actions adapted to specific local contexts concretely embodying a policy and affecting citizens in their daily lives. Implementation of climate policies, NDCs and NAP, is done through their integration into local planning. These actors are either designated by citizens through elections or appointed to represent the administration at all levels.

Private actors contribute to the country's efforts to combat adverse effects of climate change. Their actions are more visible in sectors such as clean energy, telecommunications, media, research, education, etc.

Regarding civil society, NGOs and Associations, they are important given their adherence and strong involvement in implementing climate policies and strategies. Burkina Faso has a coalition of civil society organizations on climate change with more than forty members, a network of communicators on climate change and a coalition of NGOs and associations on REDD+, a youth coordination on climate change, a set of civil society organizations partners of SP/CNDD, etc. All

of these actors carry out adaptation and mitigation actions on the ground mainly oriented toward rural municipalities, awareness-raising, advocacy and training. Their actions are aligned with priorities defined in Government's political and strategic documents.

In addition, in order to ensure that the environment is taken into account in development frameworks, the Government of Burkina Faso set up environmental units by Decree **No. 2008-125 /PRES/PM/MECV of March 07, 2008** on the creation, attributions, organization and operation of Units in ministerial departments, administrative regions and public and private companies. The main mission of environmental Unit is to contribute to integrating environmental concerns in designing and implementing development policies, programmes and projects.

In addition, there are several national institutions that provide expertise, information and training on climate change. These institutions include Joseph KI-ZERBO University (UJKZ), Institute of Environment Engineering and Sustainable Development (IGEDD), Study Centre for Environment Promotion, Development and Protection (CEPAPE), Aube Nouvelle University (U-AUBEN), Institute 2IE, etc. As part of the country's centers for excellence in climate change, the Institute for Environment and Agricultural Research (INERA), Doctoral School in Computer Science and Climate Change (EDICC) and the Center for Study, Training and Research in Social Risk Management (CEFORERIS).

3.5 Progress in Adaptation Implementation

- Adaptation planning process in Burkina Faso is structured around several key stages to ensure an inclusive, participatory and effective approach. To this end, development of the various instruments (NAPs, RAP, strategies, guides, etc.) is coordinated by the SP/CNDD in partnership with stakeholders. However, in taking these instruments into account in national and subnational planning, leadership is provided by DGEP in collaboration with concerned sectors. In Burkina Faso, development of national and regional adaptation plans followed the next steps. Stakeholder identification: Involve all relevant actors, including ministries, NGOs, local communities and international partners ;
- **Diagnostic analysis**
  - Vulnerability assessment: Analyse the sectors most vulnerable to climate change impacts ;
  - Data collection: Gather existing information on climate change impacts and sectoral vulnerabilities; Public consultations: Organize workshops and consultations to gather stakeholder views.
  - Needs Identification: Determine capacity and resource needs for adaptation.
- **Plan development :**
  - Setting goals : Set clear and measurable goals for adaptation ;
  - Development of adaptation options: Propose specific measures for each vulnerable sector ;
  - Monitoring-evaluation mechanism : Establish an effective system to monitor and evaluate implementation ;
  - Communication plan : Development of a dissemination plan;

- Resource mobilization strategy: Develop a resource mobilization strategy for effective financing.

3.6 Status of adaptation actions under the first National Adaptation Plan

The results of NAP implementation assessment over the period 2015-2020 show that, out of a total of 143 actions programmed for all sectors, 96 actions had been completed or were in the process of being completed, i.e. a rate of 67%, compared with 47 actions which had not even got off the ground, i.e. a rate of 33%. Table 48: Level of completion of 2015 NAP adaptation actions by priority sector and below shows the level of completion of actions by sector.

Table 48 : Level of completion of 2015 NAP adaptation actions by priority sector and the level of completion of actions by sector

No.	Sector	Number of actions	Completion rate of planned actions by sector (%)	Percentage of actions carried out by sector (%)
1.	Health	22.	57.	15.
2.	Energy :	04.	44.	11.
3.	Environment/ Natural resources	25.	39.	10.
4.	Agriculture	19.	87.	22.
5.	Water resources	23.	84.	21.
6.	Livestock farming	04.	75.	19.
7.	Housing and infrastructure	29.	6.	2.
8.	CSOs	14.	ND	ND
9.	Women Organizations.	03.	0.	0.
Average overall rate			**49.**	**100.**

Source: NAP Evaluation Report, June 2021

According to evaluation results, cross-cutting sectors, notably gender and civil society, had each zero percent (0%) of implemented actions. However, it should be noted that 15 actions not planned in NAP were carried out in these two sectors.

Notwithstanding the difficulties in reporting gender and civil society actions, actions implemented in 2015 NAP have contributed to reducing incidence of vector-borne diseases such as malaria, improving energy efficiency and protecting biodiversity. In addition, they have strengthened the resilience of agricultural infrastructure and practices, ensuring better water resource management and increased food security. Evaluation also made it possible to identify good lessons in which, one can mention (i) establishment of NAPs and NDCs focal points, which should ultimately solve the difficulties in monitoring actions at sectoral level, (ii) gradual inclusion of actions related to NAPs in the planning of activities in certain ministerial departments, (iii) development of an institutional capacity-building programme in connection with NAP implementation, (iv) continuous capacity building of the actors on NAP and NDC.

With regard to NAP updating, given that climate change is dynamic and its effects are constantly changing over time and space, NAP should not be frozen, but rather should be updated and refreshed after a certain period of implementation. NAP review may take place under the following conditions: (i) when new information or vulnerability analyzes are made; (ii) when there are developments in international climate negotiations; and (iii) when national circumstances so require.

3.7 Status of NDC adaptation actions

In the 2015 NDC, 31 adaptation measures or projects were planned, with a reduction potential of around 43,707Gg Eq-CO_2 by 2030. Indeed, the evaluation made in 2020 shows a reduction in adaptation actions, a reduction of 38,898 Gg Eq-CO_2 of GHGs, or 89% in terms of implementation rate. Thanks to implementation of adaptation actions, Burkina Faso has been able to meet its commitments in terms of reducing GHG emissions by 2025. This situation further convinces the country that financing its adaptation actions reduces greenhouse gas emissions.

Adaptation measures and actions carried out as part of NDC and NAP implementation were based on endogenous knowledge and practices, particularly on land recovery techniques such as the practice of Zai, stony cords, half-moons, etc.

3.8 Nature-based Solutions

Nature-based solutions are actions aimed at "protecting, sustainably managing and restoring natural or modified ecosystems to directly address societal challenges in an effective and adaptive manner, while ensuring human well-being and producing benefits for biodiversity (IUCN 2018)". They rely on ecosystems to meet global challenges such as the fight against climate change, natural risk management, health, access to water, food security".

As part of NDC review, Burkina Faso has conducted a study on nature-based solutions with the objective of determining how nature-based solutions can strengthen Burkina Faso's NDC. This study shows that the potential for efficient mitigation is estimated at 9.802 Mt Eq-CO_2/year using nature-based solutions. The three main nature-based solutions for climate change mitigation are agroforestry, improved forest management, and avoided wood fuel harvesting at 8, 867 Mt Eq-CO_2/year. This does not include the potential contributions of regenerative agriculture, which could be enormous.

Burkina Faso's national commitments in environmental and development plans contain recommendations for a number of nature-based solutions, including: Forest protection; sustainable management and restoration; watershed protection and management; wetland restoration; improved agricultural practices; application of agroforestry principles; and restoration of degraded lands.

From the analysis options in terms of nature-based solutions, we note that nature-based solutions classified as "very high" for Burkina Faso were agroforestry and improved management of natural

forests. Improved grazing practices classified as “medium” and peat restoration, improved rice management and avoided peat impacts are all classified as “low”.

3.9 Other measures and actions in support to NAP implementation

In addition to measures and actions carried out as part of assessing NAP and NDC state of implementation, several adaptation projects/programmes and initiatives are in progress. Among these initiatives, we can enumerate:

- l’initiative initiative for effective adaptation and long-term resilience (LIFE-AR);
- financing mechanism for adaptation at the local level (LoCAL);
- development of guides for integrating adaptation into local development frameworks.

As international support, the country has benefited from support of several technical and financial partners such as the United Nations Environment and Development Programme (UNDP), Global NAP Network, German cooperation (GIZ), etc., through projects whose funding comes from among others the Global Environment Facility (GEF), Green Climate Fund (GCF) and adaptation Fund. Implementing these projects has enabled:

- Strengthening ecosystems and populations’ resilience
- completion of four vulnerability and risk studies with RAP for the Central Plateau, South-West, Central-South and Central-West regions;
- established a coordination mechanism on adaptation actions
- development of a NAP Communication Plan;
- development of a NAP Investment Plan;
- ongoing development of a mechanism to monitor adaptation financial flows ;
- development of a resource mobilization strategy
- Strengthening of three concept notes to be submitted to the GCF ;
- development of a mechanism to monitor adaptation financial flows ;
- Updating the climate data collection site of the National Observatory for Environment and Sustainable Development.

3.10 Monitoring and evaluation of adaptation measures and processes

A monitoring-evaluation mechanism is set up in order to ensure participatory, inclusive and iterative NAP implementation in Burkina Faso. This mechanism ensures and improves integration of adaptation into planning and implementation of development policies, strategies and interventions in Burkina Faso.

The SP/CNDD, which is the institution in charge of coordinating NAP implementation, collects information from the various NAP sectors through sectoral focal points.

The monitoring-evaluation system aligns with existing systems, notably MRV and CNACC as main agencies for monitoring climate change actions.

3.10.1 Monitoring-evaluation agencies

These agencies build on existing ones on climate change and include:

National Technical Steering Committee

This is the National Climate Change Committee (CNACC), which is the coordinating and guiding agency for NAP implementation at national level. It is responsible for examining and validating the Programming and monitoring reports on implementing actors' interventions.

National Reporting Committee

It is responsible, among other things, for: Validating sectoral technical reports on climate resilience, producing monitoring reports on NAP implementation to be submitted to national technical steering committee and formulating recommendations for effective NAP implementation. It is composed of representatives from sectoral committees for Agriculture, Forestry and other Land uses (AFAT), Energy, Waste and Industrial processes and Product use (IPPU), from the Ministries of Environment, Finance, Research, Agriculture, Gender, Mines and Digital Transition. They meet whenever needed during the year.

Sectoral technical committees

There are four of them: Energy Sector Technical Committee, IPPU Sector Technical Committee, AFAT Sector Technical Committee and Waste Technical Committee. Their roles include the production of sector data and development of sectoral technical reports for NAP implementation. They are mainly composed of representatives of ministries responsible for these sectors. They meet whenever needed during the year.

Regional Dialogue Framework

At regional level, the Regional Dialogue Framework (CRD) acts as a Steering Committee. It serves as the Regional Steering Committee of revised Regional Development Plan (RDP) integrating adaptation and/or Regional adaptation Plan.

The CRD is composed of representatives of decentralized agencies, local authorities, private sector, civil society, programmes, projects, non-governmental organizations and development associations, as well as any natural or legal person designated by RDP President in the light of his expertise, as an observer.

As part of NAP implementation, the link between the central level monitoring and evaluation system led by SP/CNDD and that of regional level is ensured jointly by the Regional Directorates of Economy (DREP) and the Environment in order to facilitate the sharing of conclusions and/or recommendations resulting from the work at both central and regional level.

3.10.2 Monitoring-Evaluation mechanism

The monitoring-evaluation mechanism for the implementation of adaptation actions is built around CNACC and MRV system. The data collection system is based on focal points appointed in the various NAP implementation agencies.

- **At regional level,** each regional Directorate of the various ministries involved in NAP implementation collects data on the implementation of adaptation actions from non-state actors and local authorities. Collected data are compiled and submitted for review and validation at CRD sessions.

- **At national level**, each sectoral focal point, on the basis of data collection framework, collects requested information based on reports validated by the bodies of ministerial and sectoral steering committees. Completed canvas is deposited on MRV platform. A sectoral reporting committee ensures the compilation of sectoral information provided by different focal points. The latter reviews, validates and produces sectoral NAP implementation reports which are forwarded to the national steering committee.

3.10.3 NAP evaluation system

Transparent NAP implementation requires external and independent evaluations to highlight effectiveness and impact of achieved projects. Two types of evaluation are planned:

- a final evaluation at the end of the five (5) years of implementation in order to assess achieved results. This evaluation will allow for realignments for the next NAP five-year plan. NAP (2015-2020) was the subject of an evaluation of adaptation actions in 2021;
- a retrospective evaluation to measure impacts, lessons learned and sustainability of results.

The value of retrospective evaluation is to provide useful foundations for the development of subsequent policies and strategies. It can be completed two years or more after the end of the previous NAP five-year plan.

However, NAP could have a mid-term evaluation focusing on effectiveness and efficiency, subject to the availability or mobilization of resources.

3.10.4 Monitoring-Evaluation tools

NAP Monitoring-evaluation is done through: (i) the activity reporting canvas, (ii) logical framework, (iii) the indicator monitoring matrix, and (iv) performance measurement framework. Thus, these different tools are specified by each NAP implementation agency and submitted on MRV platform, the main tool for revitalizing data on the implementation of climate actions.
All monitoring-evaluation tools developed as part of the NAP implementation may be based on existing monitoring-evaluation systems at national level. The national weighting framework for activities and tasks, used as part of the national development policy monitoring, can be used as a reference document for information on the implementation rates of programmed activities.

3.10.5 Instruments for implementing adaptation actions

Adaptation actions are implemented through a three-year Operational Action Plan (OAP) and an Investment Plan. The Annual work Plan and Budget, which is the OAP annual section, serves as annual instrument for NAP implementing. In line with the OAP, projects and programmes are formulated and implemented in order to contribute to implementing NAP guidelines. At local level, NAP is operationalized through regional climate change adaptation plans. The Annual Investment Plan is the main instrument for implementation at local level.

To better take climate change into account in national and local frameworks, guidelines have been developed. In order to strengthen NAP action synergy, visibility and ownership, a communication plan is developed and implemented.

3.10.6 Effectiveness and sustainability in implementing adaptation measures

NAP evaluation carried out in 2021 highlighted lessons learned, achievements as well as shortcomings. Shortcomings have allowed corrective actions to be taken for effective and efficient adaptation implementation.

In terms of lessons learned and corrective actions, these include:

- continuous capacity building for NAP actors;
- Participatory NAP evaluation (2015-2020) ;
- formalize MRV system as the main institutional mechanism for monitoring and evaluation ;
- develop sector-specific indicators in the new NAP (2024-2028);
- progressive ownership of NAP by sectoral actors;
- establish NAPs and NDCs focal points to facilitate the monitoring of adaptation actions at sectoral level;
- progressive inclusion of NAP-related actions in activity programmes in ministerial departments related to adaptation.

3.11 Information on prevention, reduction and treatment of loss and damage associated with climate change impacts

3.11.1. Observed impacts and potential of climate change

Based on vulnerability and risk studies carried out during the NAP review with SSPs scenarios, data from Disaster Epidemiology Research Centre (2022) as well as government reports and peer-reviewed scientific journals from 1980 to 2020, diagrams 92 to 101 as well as tables 44 and 45 discussed in section 3.2, summarize observed and potential impacts of climate change in Burkina Faso.

Activities related to remediation of loss and damage related to climate change adverse effects

In Burkina Faso, civil society prepared two advocacy notes for authorities to influence adoption and implementation of funds on loss and damage at international level.

As a reminder, Burkina Faso, through its Confederation of farmers, organized in 2022 the first national consultative conference on loss and damage in order to allow national actors (delegates, civil society groups, researchers or ordinary citizens) to reflect and express their own analysis on how to advance the issue of loss and damage at national level and especially in international negotiations at COP 27.

Following the Loss and damage Fund adoption at COP 27, the issue of inclusive operationalization mechanisms has arisen for the most affected vulnerable countries. It is in this context that the second conference was organized in 2023 by the Confederation of farmers of Faso, with the aim of assessing national actors' level of understanding of the new loss and damage fund process and enabling them to develop a shared position on the financing of loss and damage related to climate change during the negotiations at COP 28.

The third National Consultative Conference on Loss and damage held in 2024 focused on proposals for initiatives and other strategies to prepare the country for the implementation of an effective strategy capable of applying for Loss and damage Fund in the event of climate disasters but also of being able to manage them at national level.

Activities related to prevention and reduction of losses and damage related to climate change adverse effects

In Burkina Faso, a number of initiatives have been put in place to prevent and reduce losses and damage linked to climate change adverse effects. These include:

- ***Early warning systems***

The country has developed early warning systems to quickly inform people of impending risks such as floods, droughts and heat waves through weather reports and digital platforms.

- ***Capacity building***

Training and awareness-raising workshops are conducted to inform populations about climate risks and measures to follow in the event of extreme events by agencies such as SP/CONASUR, SP/CNDD, and ANAM to build local actors and communities' capacities in climate risk management.

- ***Mapping Risk Areas***

Mapping of vulnerable areas that allows better planning and implementation of appropriate prevention and response measures is carried out by SP/CONASUR, SP/CNDD and ANAM.

- ***Resilient infrastructures***

In view of recurrent floods in recent years, the country has begun the resizing of certain road infrastructures to make them more resistant and effective in extreme weather conditions. This is the case for National Road N°1.

- ***International collaboration***

Burkina Faso is working with international organizations to obtain funding and technical resources needed to implement loss and damage financing strategies. One example is Oxfam, which accompanies Peasant Confederation of Faso for annual national conferences on loss and damage, which is in its third edition.

However, beyond these actions, the country has not yet put in place a national architecture to anticipate effective mobilization of funds on loss and damage related to climate change impacts. This situation is explained by a lack of control of this fund financing mechanism, which seems new for the national party.

3.11.2. Institutional frameworks to facilitate implementation of activities to prevent, reduce and repair losses and damage related to climate change adverse effects

Burkina Faso has put in place several institutional and legal provisions to manage losses and damage associated with disasters and humanitarian crises. Among these provisions, we can cite LAW No. 012-2014/AN relating to orientation law on prevention and management of risks, humanitarian crises and disasters, adopted on April 22, 2014. Article 12 of this law mentions the actors involved in this chain and their roles, including illustrated in Table 49.

Table 49 : Role of actors in dealing with disaster losses and damage

ACTORS	ROLE
State	▪ define and implement national policy on risk and disaster prevention and management; ▪ establish institutions, tools and mechanisms for prevention and management of risks, humanitarian crises and disasters; ▪ ensure overall coordination of prevention, emergency relief, humanitarian assistance and recovery activities; ▪ create an environment conducive to participation of other actors.
Local authorities	▪ develop and implement, within the framework of national plans, local plans for prevention and management of risks, humanitarian crises and disasters, particularly with regard to flood prevention and flood control.
Research institutions	▪ ensure strategic monitoring by gathering, processing and making available to competent authorities any information necessary for prevention of risks, humanitarian crises and disasters.
Private Sector	▪ contribute to financing for risk prevention and management, humanitarian crises and disasters.
Humanitarian agencies	▪ provide humanitarian assistance to affected populations through psychosocial, financial, material and technical support.

Source: Survey data

3.12. Cooperation, good practices, experiences and lessons learned

Cooperation occupies an important place in the process of combating climate change effects in Burkina Faso. Cooperation initiatives take place at several levels namely, national, regional and international.

3.12.1. Efforts to share information, good practices, experience and lessons learned

Table 50 below illustrates initiatives developed by Burkina Faso in different sectors in order to share information, good practices, experiences and lessons learned.

Table 50 : Efforts to share information, good practices, experience and lessons learned

Sectors	Initiatives
Science	▪ Development of methodologies for obtaining emission factors in the AFAT and Wastes as part of the CBIT-Burkina Faso project. ▪ Promotion of these methodologies at academic and research levels; ▪ Collaboration protocols with research laboratories of Joseph KI-ZERBO University and CNRST to produce greenhouse gas emission factors for AFAT and Wastes.
Planning and relevant policies for adaptation	▪ The National Adaptation Plan (NAP) is the reference document for climate change adaptation planning in Burkina Faso; ▪ To date, Burkina Faso is in its second NAP (2015-2020 NAP and 2024-2028 NAP); ▪ 2024-2028 NAP benefited from the lessons learned from assessment of 2015-2020 NAP, with a view to consolidating achievements, updating information and guiding implementation of adaptation activities over the period 2024-2028; ▪ The country wants to move from a sectoral approach to Adaptation Plans based on a regional approach in order to take into account specificities of each region in the country in terms of vulnerability and adaptation options to climate risks. ▪ 04 Regional Adaptation Plans have been developed to date; ▪ Guides are developed to facilitate integration of adaptation into local planning.
Policy innovation and pilot and demonstration projects	▪ Setting up a measurement, reporting and verification platform (MRV Platform); ▪ This information sharing platform is the MRV system enhanced transparency framework for emissions, greenhouse gas removals, support and adaptation efforts.
Integration of adaptation measures into planning at different levels	Development of several tools for this purpose. ***Produced methodological guides :***

Sectors	Initiatives
	▪ Practical guide to developing a local planning strategy integrating the link between human mobility, environment and climate change ▪ Guide to integrating environment, sustainable development and sustainability into DPRs and PCDs ▪ Booklet for integrating sustainable land management, wetlands, climate change, biodiversity, natural disaster risks into local development plans ▪ Training manual to support integration of the link between migration, environment and climate change in local planning in Burkina Faso ***Developed draining modules :*** ▪ Training module on integrating climate change into local development plans (COM-SSA project) ▪ Thematic training module on "integrating climate change into regional and local development plans"
Cooperation to share information and strengthen science, institutions and adaptation	***At national level*** ▪ Cooperation via collaborative protocols with national research and academic institutions to build capacity and to have science-based data and information in the area of adaptation/mitigation. ***At regional level*** ▪ A need to strengthen cooperation in information sharing with countries in the West African sub-region and with regional research and development institutions such as WASCAL and AGRHYMET. ***At international level***

Sectors	Initiatives
	▪ Cooperation with several international institutions (GGGI, Global NAPs Network, GEF, etc.) in climate change adaptation and mitigation.
Sector, scope and types of cooperation and good practices	Several types of cooperation ▪ At the scientific level with universities and research centres for capacity building and information sharing; ▪ At the level of municipalities and regions with municipalities for climate change integration in development plans at the level of municipalities and regions; ▪ Between ministerial departments and with CSOs, NGOs and the private sector for information sharing; ▪ Process of developing a protocol for collaboration with national data-producing institutions in the field of adaptation and mitigation.
Improving the sustainability and effectiveness of adaptation measures	▪ Production of a catalogue of good practices for adapting to climate change;
Assist developing countries in identifying adaptation practices, needs, priorities, challenges and gaps in a way that is consistent with encouraging good practices	▪ Conducted vulnerability studies with support from Global NAPs Network and GCF to identify climate risk vulnerabilities, impacts, challenges as well as good practices and priority adaptation options.

Source: Survey data

3.12.2. Strengthening scientific research and knowledge

Initiatives have been undertaken in the country to strengthen scientific research and knowledge in adaptation and monitoring-evaluation, including on climate change (Table 51).

Table 51 : Initiatives Strengthening scientific research and knowledge

Sectors	Initiatives
Climate, including research and systematic observation and early warning systems, to inform climate services and decision-making	▪ Strengthening Climate Resilience Project in Burkina Faso (HYDROMET Project). ▪ This project aims to strengthen capacities for the National Meteorological Agency (ANAM), General Directorate of Civil Protection (DGPC), Early Warning System (EWS), Permanent Secretariat of the National Emergency Relief and Rehabilitation Council (SP/CONASUR) and General Directorate of Water Resources (DGRE) for prevention and management of crises related to climate change.
Vulnerability and adaptation	▪ Carrying out vulnerability studies in the regions of Burkina Faso to determine climate risks, vulnerable population groups and sectors as well as priority adaptation options with the support from Global NAPs Network and GCF.
Monitoring and Evaluation	Setting up a multi-actor monitoring and evaluation system for NAP via: ▪ MRV system ▪ CNACC ▪ CRD. This mechanism ensures and improves integration of adaptation into planning and implementation of development policies, strategies and interventions in Burkina Faso.

Source: MEEA, BTR1, 2024

CHAPTER 4: INFORMATION ON FINANCIAL ASSISTANCE, DEVELOPMENT AND TECHNOLOGY TRANSFER ASSISTANCE AND CAPACITY BUILDING ASSISTANCE REQUIRED AND RECEIVED UNDER ARTICLES 9 TO 11 OF THE PARIS AGREEMENT

4.1 National circumstances and institutional arrangements

Burkina Faso, like other developing countries, has established not only institutions but also governance bodies to facilitate, monitor and coordinate the mobilization of resources related to climate finance at the national level. 3. Among others, these include:

- a Transitional Legislative Assembly (TLA);
- the Ministry of Economy through the General Directorate of Planning, the General Directorate of Budget and the General Directorate of Cooperation;
- the Prime Minister's Office through the Executive Secretariat of the Green Climate Fund in Burkina Faso;
- the Ministry of Environment through the Environmental Intervention Fund (EIF) and Permanent Secretariat of National Council for Sustainable Development which hosts the focal point of the United Nations Framework Convention on Climate Change (UNFCCC), the operational focal point of the Global Environment Facility (GEF), the Designated National Authority under the Clean Development Mechanism (CDM), the Designated National Authority of Climate Technology Centre and Network;
- Projects and Programmes Directorates within the General Directorates of Sector Studies and Statistics (DGESS).

As part of the consultation frameworks related to the mobilization and monitoring of climate finance, we can mention, among others:

- the Structured National Dialogue for Green Climate Fund;
- the Framework for consultation of national focal agencies on climate finance;
- the Single Framework for Consultation of Conventions;
- National Committee on Climate Change.

Also, the law on general regulation of projects and programmes executed in Burkina Faso specifies in its article 5 that the coherence for interventions in development projects and programmes and capitalization of results are done within the budget programme in which the project was initiated.

However, to facilitate monitoring, development projects or programmes must be registered in the Integrated Project Databank (BIP) and/or the Public Investment Programme (PIP). This obligation is the responsibility of general directorates in charge of planning of ministries and institutions, while BIP updating and PIP monitoring are ensured by general directorate in charge of coordinating and monitoring public investments.

It should nevertheless be stressed that there are limits in the sense that sectoral groups do not sufficiently communicate on their projects or programmes. This does not facilitate effective and comprehensive monitoring and capitalisation.

4.2 Underlying assumptions, definitions and methods

4.2.1 Converting national currency into US dollars

Le Burkina Faso shares with 14 African countries of the Franc Zone, the CFA franc which currently means "franc of the African Financial Community" for the Member States of West African Economic and Monetary Union (WAEMU) of which the country is a member. The Central Bank of West African States (BCEAO), an international public institution, is the issuing institute common to the eight (8) Member States of WAEMU. It enjoys the exclusive privilege of monetary issuance on all WAEMU Member States and issues monetary signs, notes and coins, which have legal tender and liberating power in all Member States of the Union. It also defines the regulations applicable to banks and financial institutions, and performs supervisory functions.

There are two exchange rate regimes: the fixed exchange rate regime and the floating exchange rate regime. The XOF enjoys a fixed parity with the Euro, originally with the French franc, provided for in Article 2 of the Agreement of 4 December 1973 between the French Republic and the WAEMU Member States. With the reform of monetary cooperation in the WAEMU zone in 2019, the exchange rate will remain fixed at 1 EUR = XOF 655.957.

The exchange rate regime with the US dollar is floating. Currency prices are defined by supply and demand, without state intervention. Monetary sovereignty has been transferred from the States to the BCEAO which decides on the quantity of currency in circulation while respecting their objective of price and currency stability. According to projections from the report of March 1, 2023 session of the BCEAO Monetary Policy Committee (CPM), the average price of the US dollar (USD) was XOF 596.3 in 2023 against XOF 623.7 in 2022. This course would be at XOF 585.7 in 2024, XOF 575.4 in 2025 and XOF 585.7 in 2026.

For the purposes of this report, the exchange rate used is 1 USD per XOF 550.

4.2.2. Method for estimating the amount of aid required and reporting timeframe

Estimate of aid needed for climate action is based on the approach used by UNFCCC to assess the financing needs of developing countries through its technical report published in 2021. Indeed, the needs identified and formulated by developing country parties to the UNFCCC are assessed through the types of national reports taking into account financing, development, technology transfer and capacity-building needs (UNFCCC, 2021). Thus, Burkina Faso's needs in terms of climate financing are estimated based on national reference systems on climate change, namely the Nationally Determined Contribution (NDC, 2021-2025), National Adaptation Plan (NAP, 2024-2028), the National Climate Change Learning Strategy (SNACC, 2016-2025), the National Green Economy Strategy (2018-2027), Vision 2050 for low-carbon and climate-resilient development in Burkina Faso (LT-LEDS), the Adaptation Technology Needs Assessment (2017),

the Mitigation Technology Needs Assessment (2017), the Updated Biennial Report (PRBA, 2021), the Adaptation Communication (Adcom,2022).

In order to avoid double counting, analysis of climate financing needs is carried out essentially based on financial needs expressed in the documents cited above.

The period 2021-2025 was chosen because it corresponds to the deadline of Burkina Faso revised NDC. Indeed, following the ratification of the Paris Agreement, Burkina Faso considered its Intended Nationally Determined Contribution (INDC) as its NDC (2016-2020) which expired in 2020. Thus, the country revised its NDC in 2021 which increased its ambition level and which covers the period 2021-2025.

4.2.3 Methodology for identifying and reporting the channel (bilateral, regional or multilateral)

Identification methodology at this level is based on Burkina Faso's National Strategy for Development Cooperation (SNCD) 2020-2025. According to this strategy, cooperation relations take different types and forms, namely bilateral and multilateral cooperation (focusing on Official Development Assistance), decentralized cooperation, South-South and triangular cooperation and public-private partnership. However, nowadays, national policy includes sub-regional and regional cooperation in view of perpetual change in the economic environment.

Bilateral channel refers to a form of cooperation between two states or entities (companies or organizations). It often involves direct negotiations and specific agreements between the two parties. Discussions and agreements are generally more focused and can be tailored to particular needs and interests of both parties involved.

Multilateral channel represents a form of cooperation involving more than two (02) States or entities, often globally or across multiple regions. Multilateral fora may include international conferences, intergovernmental organizations, or agreements between multiple countries or organizations. These two (02) channels have always been the most used forms of cooperation in Burkina Faso (SNCD, 2020-2025). Regional channel is a form of cooperation involving several parties within a defined geographical or economic region. This may include regional agreements or organizations such as the African Union.

To identify the channel, it will be enough to analyze the parties involved in the interaction. If the interaction involves only two (02) parties, it is a bilateral channel. If multiple parties from the same region are involved, it is a regional channel. If the interaction involves multiple parties globally or across different regions, it is a multilateral channel. Once the channel is identified, it is important to report it by including details in relevant documents or reports through a description of involved parties, objectives, and commitment nature. Finally, it will be necessary to monitor developments and results related to the identified channel, and evaluate collaboration effectiveness according to channel type by adjusting strategies if necessary.

4.2.4. Hypothesis or method to identify and indicate support type (mitigation, adaptation or intersectoral)

In Burkina Faso, climate-sensitive budgeting (BSC) is not yet taken into account in the permanent legal framework, but is only found in the annual budget circular. The legislative framework for public finances does not make specific mention of climate objectives and how they are taken into account in budgets. Only since the 2023 financial year, the budget circular incorporates a paragraph concerning BSC as well as an annexed analysis framework. It requires all ministries and institutions to systematize climate change consideration in their resource allocation proposals over the period 2023-2025 with a specific framework that identifies climate-sensitive expenditure without giving details on expenditure nature. This imprecision leads to taking into account climate finance definition as given by the UNFCCC and the Standing Committee on Finance (SCF). Indeed, according to the UNFCCC, climate finance is local, national or transnational finance, which can come from public, private or alternative sources of finance for climate change mitigation and adaptation. For the SCF (2024), this is funding to reduce emissions and enhance removal by sinks of GHGs and increase resilience of human and ecological systems to climate change negative impacts.

Taking into account the above definitions, the support type identification is based on the nature or purpose of the project, action or activity. Thus, support is qualified as mitigation when the intervention aims to reduce emissions or strengthen greenhouse gas sinks (IPCC, 2018). It is supposed to be an adaptation support when it comes to an adjustment process to the current or expected climate as well as its consequences, in order to mitigate the harmful effects and exploit the beneficial effects. Cross-sectoral or cross-cutting support refers to support that simultaneously targets mitigation and adaptation objectives. To this end, it includes combined mitigation and adaptation approaches.

Moreover, the training module of the Directorate General for Budget (DGB) identifies expenditure on climate change and calls for expert judgement to know whether the expenditure is related to mitigation or adaptation. Proposed actions are as follows:

- popularization of solar dryers, solar cookers and improved stoves;
- prioritization of renewable or low-carbon energies (solar, wind, geothermal, hydroelectric);
- purchase/use of more efficient electric and hybrid vehicles;
- purchase/use of fuel efficient vehicles, hybrid and clean diesel vehicles, energy efficient vehicles;
- use of bio-fuels.
- promotion of public transport, non-motorized transport (cycling and walking);
- materials recycling or substitution;
- management of gases other than carbon dioxide;
- carbon sequestration and storage for cement plants
- use of inert electrodes for aluminum manufacture;
- Popularizing improved seeds, subsoiling, composting, crop associations;
- soil protection and restoration/soil and water conservation techniques;
- degraded land rehabilitation;

- improving techniques for spreading nitrogen-containing fertilizers;
- cultivation of specific plant species as a substitute for fossil fuels;
- energy efficiency (LED bulbs, daylight use);
- popularization of solar energy for heating and cooling;
- recovery and recycling of fluorinated gases (which contribute to greenhouse effect);
- disseminating new water management techniques (micro-irrigation basins, water ramp systems, surface water reservoirs);
- rainwater collection or impluviums;
- groundwater drainage techniques;
- over-deepening of natural pools;
- protection of water points against silting;
- control of invasive plants;
- spreading threshold;
- increased popularization of mowing techniques and conservation of fodder, fodder crops, livestock mobility practices and transhumance;
- waste management;
- existing early warning system;
- the fight against emerging diseases related to climate change (parasitic, skin, eye infections, malnutrition);
- biogas use;
- reducing emissions from deforestation and forest degradation

Finally, even if the MRV support is not sufficiently operational, Burkina Faso through CBIT (Capacity Building Initiative for Transparency) initiative has developed a a list of detailed financial indicators for monitoring NDC and NAP implementation as well as a climate finance monitoring tool. Financial indicators for mitigation, adaptation and cross-cutting issues are identified.

4.2.5. Identification of the financial instrument (grant, concessional loan, equity, guarantee or other)

Identification and declaration of financial instrument requires an understanding of different financial instruments used in climate finance. In 2021, Burkina Faso developed a mapping of climate finance and an analysis of the state of play of climate finance. These documents helped define a number of instruments commonly used in climate finance. These include:

- ***Grants***: public funding provided in form of cash, goods or services, for which no reimbursement is required;

- ***Concessional loans***: or soft loans refer to the initial transfer of resources from one party to another, with the understanding that reimbursement will be made on terms more favorable than those of the market;
- ***Guarantees***: support provided by a public actor to transfer certain risks from investors or national governments to that public actor;
- ***Equity investments***: investment in a project or asset in order to leverage debt and achieve better returns;
- ***Green bonds***: financial debt instrument issued by a company (financial or non-financial) or a public entity (city, region, government, development bank, etc.) on the markets, to finance only projects that contribute positively to environment;
- ***Equity investments***: acquiring a stake in a company's capital, it is the fact subscribing for or purchasing securities issued by the company, in order to become a shareholder;
- ***Repayable grants***: financing which repayment depends on the funded programme success rate;
- ***Results-based payments***: payment to a government, organization subject to measurable actions to reach a desired goal.

4.2.6. Sectors and sub-sectors identification

In 2016, Burkina Faso Government adopted the National Economic and Social Development Plan (PNDES) revised in 2021. In order to support this framework implementation, fourteen (14) planning sectors have been defined: (i) Agro-sylvo-pastoral production; (ii) Industrial and small-scale processing; (iii) Transport, communication and housing infrastructure; (iv) Trade and market services; (v) Economic governance; (vi) Administrative and local governance; (vii) Education and training; (viii) Health; (ix) Defense and security; (x) Environment, water and sanitation; (xi) Culture, sports and leisure; (xii) Labor, employment and social protection; (xiii) Justice and human rights; (xiv) Research and innovation. Each sector, led by a leader, is subdivided into sub-sectors with functional codes to facilitate reporting.

Based on the national planning sectors set out in the PNDES, NDC and NAP have identified priority sectors for reducing GHG emissions and strengthening resilience for humans and ecological systems. For NAP, these are the sectors: (*i) water resources; (ii) agriculture; (iii) livestock and fishery resources; (iv) environment and natural resources; (v) health; (vi) energy; and (vii) infrastructure and housing*. These sectors are in line with PNDES priority sectors, which are:

- Energy;
- Infrastructures;
- Agriculture;
- Animal resources;
- Water, Sanitation and Waste;
- Housing;
- Transportation;

- Environment.

4.3 Information on financial support required and received under Article 9 of the Paris Agreement

To fully implement NDC actions, Burkina Faso will require grants and other multilateral and bilateral conventional funding. Therefore, support from technical and financial partners remains fundamental for effective implementation of conditional projects and programmes taking into account mitigation, adaptation and gender actions.

In addition, it should also be noted that the country has been able to mobilize financial resources from a several sources.

4.3.1 Information on financial support required under Article 9 of the Paris Agreement

The required support is assessed here on the basis of the needs expressed in the country's Nationally Determined Contribution (NDC). Assessing financing needs for climate change mitigation and adaptation actions planned in the NDC (2021-2025) is based on the programmes and projects identified in key sectors. To achieve the 29.42% target, an amount of USD 449,118,465.3 is expected under an unconditional scenario compared to USD 885,670,522 expected under a conditional scenario.

Also, Burkina Faso in its NDC considered adaptation actions with mitigation co-benefits and of which potential for reducing GHG emissions is estimated at 33,072.72 Gg Eq-CO_2. This potential is divided into an unconditional scenario (20.67%) and a conditional scenario (10.08%). This results in a financial requirement for the implementation of actions in conditional scenario which amounts to USD 1,640,812,864.
In relation to gender, which is cross-cutting, specific financing needs for GHG reduction initiatives amount to USD 1,379,891.

The summary of financial requirements for the aspects related to NDC is presented in the following Table 52:

Table 52 : Summary of financial needs related to NDC implementation

Section	Support Needed (USD)
Mitigation	885,670,522.
Integrated adaptation with mitigation co-benefit	1,640,812,864.
Gender	1,379,891.
Total support needed under NDC	**2,527,863,277.**

Source: *Team of experts based on NDC data (2021-2025)*

The support required will undeniably contribute to achieving the NDC objectives and Paris Agreement.

Indeed, the required resources are aligned with the financing needs of the NDC conditional actions which present a percentage of reduction in emissions of 9.82% for mitigation actions and 10.08% for adaptation actions. This assumes that if resources are not effectively mobilized, there will be a cumulative shortfall (mitigation and adaptation) of 19.9% in terms of potential emission reductions under the NDC. This would also constitute a gap towards achieving the objectives of the Paris Agreement.

Table 53 below provides an overview of the funding needed taking into account the NDC conditional projects.

Table 53 : NDC Conditional Action Support Needed

Title (Programme, Activity or project)	Estimated value (USD)	Expected financial instrument	Type of support (mitigation, adaptation)	Sector and sub-sector	Reference documents
Forests, agroforestry and establishment of nutritious gardens for climate-smart diversification.	5,700,000.	Grant	Mitigation	AFAT:	NDC
Realization of 100,000 hectares of Assisted Natural Regeneration in 25 communes of Burkina Faso.	15,800,000.	Grant	Mitigation	AFAT:	NDC
Project to build a solar power plant in Dédougou (18 MWp).	36,000,000.	Grant	Mitigation	ENERGY:	NDC
Project to build 3 photovoltaic solar power plants with a cumulative capacity of 300 MWp including 150 MWp in a first phase (Kaya 1 and Koupéla 2).	300,000,000.	Grant	Mitigation	ENERGY:	NDC
Project to deploy fifty thousand (50,000) Solar Home System 2 (SHS2) (60 Wc) solar kits for the benefit of households in Burkina Faso.	31,199.	Grant	Mitigation	ENERGY:	NDC
Project to build a 10 MW biomass waste thermal power plant in Ouagadougou.	30,000,000.	Grant	Mitigation	ENERGY:	NDC
Project to build a solar power plant in Dédougou (30 MWp).	60,000,000.	Grant	Mitigation	ENERGY:	NDC
Project to build a solar power plant in Dédougou (30 MWp).	72,000,000.	Grant	Mitigation	ENERGY:	NDC
Building a solar power plant in Zano (24 MWp).	48,000,000.	Grant	Mitigation	ENERGY:	NDC
Rehabilitation project of the Côte d 'Ivoire border -Ouaga-Kaya railway line.	268,508.	Grant	Mitigation	Transportation;	NDC
Bobo-Dioulasso urban transport project	120,000,000.	Grant	Mitigation	Transportation;	NDC
Kaya-Niger Border Railway Construction Project.	402,460.	Grant	Mitigation	Transportation;	NDC
Project to set up Ouagadougou town heavy urban and sub-urban rail services from the existing line.	72,561.	Grant	Mitigation	Transportation;	NDC
Project to recover methane from waste water treatment at Kossodo waste water treatment plant.	72,784,000.	Grant	Mitigation	Waste:	NDC
Project to recover methane from the landfill of CTVD waste.	8,444,000.	Grant	Mitigation	Waste:	NDC
Project to recover 200,000 m^3 of faecal sludge into biogas.	15,000,000.	Grant	Mitigation	Waste:	NDC
Waste water treatment plant construction and extension project.	36,956,921.	Grant	Mitigation	Waste:	NDC

Construction and extension of sewage sludge treatment plants.	33,043,478.	Grant	Mitigation	Waste:	NDC
Ecosystem restoration for climate change resilience of local communities in the Great Green Wall intervention area in Burkina Faso.	85,000,000.	Grant	Adaptation	Environmen.	NDC
Sustainable land management and building resilience of communities of the Toessin Dam watershed.	56,697,248.	Grant	Adaptation	Environment	NDC
Integrated soil management for agricultural productivity and environmental restoration.	39,649,800.	Grant	Adaptation	Environment	NDC
Setting up an AFOLU Emission Reduction Programme (REDD+, Agriculture).	300,000,000.	Grant	Adaptation	Environment	NDC
Pilot ecovillages initiative in Burkina Faso.	70,000,000.	Grant	Adaptation	Environment	NDC
Sustainable management of conservation areas in the Central West, Boucle du Mouhoun, Cascades, Southwest and North regions	22,700,000.	Grant	Adaptation	Environment	NDC
Development project for 35,000 ha of irrigated lowlands and perimeters and their development by the intensive rice cultivation system (SRI).	160,000,000.	Grant	Adaptation	Agriculture	NDC
Integrated development Programme for the Samendeni valley, phase II (PDIS II): development of irrigation perimeters and recalibration of the Mouhoun river.	119,182,000.	Grant	Adaptation	Agriculture	NDC
Integrated soil management for agricultural productivity and environmental restoration.	43,218,280.	Grant	Adaptation	Agriculture	NDC
Support for sustainable agricultural land management in five regions of Burkina Faso (PGDTA-5R).	44,305,144.	Grant	Adaptation	Agriculture	NDC
Rehabilitation of 225,000 ha of degraded land for agro-sylvo-pastoral purposes.	71,000,000.	Grant	Adaptation	Animal resources	NDC
Creation and sustainable management of 02 animal production intensification zones (ZIPAs) in 2 regions of the country.	47,600,000.	Grant	Adaptation	Animal resources	NDC
Mowing and conservation of 10,000T of roughage per year (hay and crop residues).	17,830,189.	Grant	Adaptation	Animal resources	NDC
Development of water points to preserve the banks of Kou Valley.	595,400.	Grant	Adaptation	Animal resources	NDC

Construction of a hydro-agricultural, electric dam in BASSIERI in Burkina Faso.	115,000,000.	Grant	Adaptation	Water and sanitation	NDC
Restoration, protection and enhancement of Lake Dem.	102,000,000.	Grant	Adaptation	Water and sanitation	NDC
Construction of a hydro-agricultural and hydroelectric dam in Banwaly.	59,416,751.	Grant	Adaptation	Water and sanitation	NDC
Mapping of areas at risk of flooding in agglomerations of more than 5000 inhabitants (50 agglomerations).	84,211,000.	Grant	Adaptation	Housing	NDC
Valorization of local materials and promotion of a housing free of wood and sheet metal in adaptation to climate change in rural and semi-urban areas of Burkina Faso	197,657,852.	Grant	Adaptation	Housing	NDC
Pilot Programme to promote efficient cooling in social housing.	666,000.	Grant	Adaptation	Housing	NDC
Restoration and development of the Ouagadougou green belt.	2,330,000.	Grant	Adaptation	Housing	NDC
Energy efficiency in urban and rural housing.	1,753,200.	Grant	Adaptation	Housing	NDC
Total	**2,495,315,991.**				

Source : Survey data

4.3.2 Information on financial support required under Article 9 of the Paris Agreement

The support received is presented in a form of a common table in accordance with the guidelines of the convention and presented by source as indicated below:

4.3.2.1 Bilateral, regional and other channels

All support received by the country under Article 9 through bilateral sources and estimated on the basis of the projects communicated to date amounts to sixty-seven billion eight hundred and thirty-five million two hundred and eighty-one thousand five hundred and fifty-two (XOF 67,835,281,552) or one hundred and twenty-three million, three hundred and thirty-six thousand eight hundred and seventy-five US dollars (USD 123,336,875.549) :

Table 54 : Bilateral, regional and other channels

Title of Programme/Project/ Activity/or other	Programme/Project description	Channel	Beneficiary entity	Executing Entities	Received amount		Deadline	Financial instrument	Status	Support Type	Sector	Activity status
					XOF	USD						
Benkadi Projet Burkina Faso	Communities vulnerable to climate change effects, particularly women, youth and people living with disabilities in Burkina Faso are realizing their right to development and are resilient to climate change	Bilateral. Funded by the Kingdom of the Netherlands	SPONG	SPONG	5.3 million Euro or (XOF 3,476,572,100)	USD 6,321,040,182	2021-2025	Grant	Received	Technical and organizational	Environment	In progress
CCASE (Climate Change Adaptation and Sustainable Energies; Project "Promotion of a Green Response to Improve Resilience of Vulnerable Communities to Climate Change in Burkina Faso"	This project aims to: - Improve agricultural production using fertilizers such as biochar and biodigester	Bilateral. Funded by UK	Christian Aid Burkina Faso	WEP / Christian Aid Burkina Faso	XOF 176,400,000.	USD 320727.273.	2023-2026	Grant	(225,000 pounds already received for 2023 to 2025,	Technical and financial	Agroecology, Environment and Climate Justice	Activities in progress

	- Promote access to sustainable energy - Strengthen civil society participation in climate justice through advocacy actions.								pending an additional 125,000 pounds for fiscal year 2025 to 2026)			
Burkina Faso Nationally Determined Contribution Promotion Support Project	The project focuses on advocacy and capacity building activities.	MISEREOR	Center for Economic and Social Experimentation in West Africa (CESAO-AI) and Green Africa Burkina	Center for Economic and Social Experimentation in West Africa (CESAO-AI) and Green Africa Burkina	Euros 345 300 (XOF 226,501 952.1)	USD 411821.731.	2022-2024	Grant from the Association of Dioceses of Germany	Received	Technical and organizational	Environment	Final year of implementation
Support for sustainable forest resource management (AGREF)	The general objective of this programme is to contribute to the protection and sustainable development of forest and wildlife resources,	Billateral. LUXDEV	MEEA	MEEA	Euro 17M (XOF 11,151,269,000)	USD 20,275,034.545	2023-2025	Donation	Acquired	Technical support	Forestery	In progress

	while ensuring a healthy environment for people, in a dynamic of environmental governance and sustainable development.											
Sahel Climate Thematic Portfolio-Burkina Faso Component	The project aims to improve the resilience of populations to the effects of climate change through the governance of natural resources; degraded land recovery; agroecology; etc.	Bilateral. Funded by the Kingdom of Belgium	Burkina Faso State	Belgian development agency (ENABEL)	XOF 8,199,462,500.	USD 14908113.636.	2022-2027	Grant	Acquired	Technical and organizational support	Environment	In progress
The OKDB triangle programme (Ouaga-koudougou-dedougou-bobo)	It is a multisectoral approach relying on the EUD nexus hdp to respond to food crisis.	Billateral. Funded by the European Union	MEEA	(luxdev, AFD, AICS, GiZ) and NGOs (TreeAid, Nitidaie, Gret, SOS sahelet WHH)	Million of Euros XOF 44,605,076 000	USD 81,100,138.182.	2023-2026	Donation	Acquired	Technical support	Agriculture Youth Employability Environment	In progress

4.3.2.2 Multilateral channels

The support mobilized under these channels are presented in the following Table 55:

Table 55 : Support received under multilateral channels

Title of Programme/Project/Activity	Description	Channel	Beneficiary entity	Executing Entities	Received amount		Deadline	Financial instrument	Status	Support Type	Sector	Activity status	Additional information
					XOF (USD 1 = XOF 550)	USD							
FP074 African Hydrometeorological Programme	Improve hydrometeorological, climate and early warning services National project:	Multilateral (GCF)	Anam DGRE DGPC SP/CONASUR SAP Agriculture	Ministry of transport/Sectoral Transport Programme	FVC 12,375,000,000	22,500,000.	2025.	Grant	Received	Adaptation	Climate Information and Disaster Risk Reduction	In progress	
		Multilateral (World Bank)			4,675,000,000.	8,500,000.							
Integrated programme for development and adaptation to climate change in the Niger Basin (PIDACC)	Strengthen the resilience of the populations and ecosystems of the Niger River basin. Multi-country programme	Multilateral (GCF)	Local authorities	MEEA/DGRE	GCF 4,041,230,000 Grant (2,954,790,000) Loan (1,086,440,000)	GCF: 7,440,000 Grant (5 440 000) Loan (2 000 000)	2025.	Grant, Loan &	Received	Transversal	Water Forestry and Land Use Agriculture	In progress	The conversion was done according to AfDB Rates
		Multilateral (ADF/AfDB)			1,561,930,000.	2,880,000.		Grant					
		Multilateral (GCF)			879,010,000.	1,620,000.		Grant					
		Multilateral (GCF)			1,309,010,000.	2,410,000.		Grant					

Title of Programme/Project/Activity	Description	Channel	Beneficiary entity	Executing Entities	Received amount		Deadline	Financial instrument	Status	Support Type	Sector	Activity status	Additional information
					XOF (USD 1 = XOF 550)	USD							
FP093 Rural Electrification Project in Burkina Faso (Yeleen)	Using the public sector to create an enabling environment for the private sector to operate solar mini-grids	Multilateral (GCF)	Local authorities	MMCE/ABER	GCF: 14,563,223,400 Grant (7,755,000,000) Loan (5,170,000,000) Guarantee (1,950,000,000)	GCF: 26 478 588 Donation (14.1 million) Loan (9.4 million) Guarantee (3 million)	2027.	Grant, Loan & Guarantee	Received	Mitigation	Energy:	In progress	
FP162 Africa Integrated Climate Risk Management Programme (AICRM)	Increase resilience and improve livelihoods and food security through integrated climate risk management. Multi-country project	Multilateral GCF + IFAD	Smallholder Farmers, Cooperatives, Rural Enterprises	MARAH/ PAFA-4R	GCF: 3,795,000,000.	GCF: 6,900,000.	2027.	Grant	Received	Cross-cutting	Agriculture	In progress	
FP183 Inclusive Green Financing Initiative (IGREENFIN I):	Improve access to credit and technical assistance for local farmers, farmer organizations,	Multilateral (GCF+ IFAD)	Micro-, Small- and Medium Enterprises	Agricultural bank/PAFA-4R	GCF: 6,509,635,000.	GCF: 11,835,700.	2030.	Grant	Received	Cross-cutting	Agriculture Forest and land use Energy	In progress	

Title of Programme/Project/Activity	Description	Channel	Beneficiary entity	Executing Entities	Received amount		Deadline	Financial instrument	Status	Support Type	Sector	Activity status	Additional information
					XOF (USD 1 = XOF 550)	USD							
	cooperatives, and micro and small enterprises. Multi-country project												
FP105 Investments in Solar Energy Development in Francophone West African LDCs	Create a market for investments in solar technologies. Multi-country project	Multilateral (GCF+ IFAD)	Rural Communities, Private Sector	MEMC/ANEREE	GCF: 5,942,259,950.	GCF: 10,804,109.	2027.	Grant	Committed	Mitigation	Energy:	Start - pending state	
FP151 Global Subnational Climate Fund (SnCF Global) – Technical Assistance (TA) Facility	Catalyze long-term climate investments at the sub-national level for mitigation and adaptation solutions through a transformative financing model. Multi-country project	Multilateral (GCF + Pegasus Capital Advisors)	Local authorities	AND, CT, SP/CNDD, DGCOOP	GCF: 242,261,800.	GCF: 440,476.	2028.	Grant	Committed	Mitigation	Environment (Waste) Water Energy Forest and land use	Start - pending state	

Title of Programme/Project/Activity	Description	Channel	Beneficiary entity	Executing Entities	Received amount		Deadline	Financial instrument	Status	Support Type	Sector	Activity status	Additional information
					XOF (USD 1 = XOF 550)	USD							
FP152 Global Subnational Climate Fund (SnCF Global)	The SnCF Global presents a positive breakthrough solution on how sub-national climate projects should be structured, de-risked and financed by private and public investors. Multi-country project	Multilateral (GCF + Pegasus Capital Advisors)	Local authorities	AND, CT, SP/CNDD, DGCOOP	GCF: 2,063,285,950.	GCF: 3,571,429.	2040.	Actions	Committed	Mitigation	Environment (Waste) Water Energy Forest and land use	Start - pending state	
FP178 Desert to Power G5 Sahel Facility	Harness the immense solar energy potential of the Sahel region and provide end-users with cheaper, reliable and low-emission electricity.	Multilateral (GCF+ IFAD)	Local authorities	MEMC/ABER	GCF: 16,500,000,000.	GCF: 30,000,000.	2029.	Grant, Loan & Guarantee	Committed	Mitigation	Energy :	Start - pending state	

Title of Programme/Project/Activity	Description	Channel	Beneficiary entity	Executing Entities	Received amount		Deadline	Financial instrument	Status	Support Type	Sector	Activity status	Additional information
					XOF (USD 1 = XOF 550)	USD							
	Multi-country project												
FP198 CATALI.5°T: Concerted action to accelerate local I.5° technologies – Latin America and West Africa	Trigger investments in start-ups and youth entrepreneurs with the greatest impact on mitigation. Multi-country project	Multilateral (GCF)	Private Sector	MEMC/ANEREE	GCF: 1,206,745,100.	GCF: 2,194,082.	2029.	Grant	Committed	Mitigation	Energy:	Start - pending state	
FP211 Hardest-to-Reach	Providing access to green and affordable energy for low-income populations. Multi-country project	Multilateral (GCF)	Private Sector	MEMC/ANEREE	2,234,375,000.	4,062,500.		Intervention Grant	Committed	Mitigation	Energy:	Start - pending state	
10516 Improving the climate resilience of agro-sylvo-pastoral production systems in Burkina Faso	Increase the climate resilience of agro-sylvo-pastoral family farming communities	Multilateral GEF-LCDF	Market	MARAH	4,912,831,000.	8,932,420.		Grant	Committed	Adaptation	Agriculture Water Forestry and Land Use	Start - pending state	

Title of Programme/Project/Activity	Description	Channel	Beneficiary entity	Executing Entities	Received amount		Deadline	Financial instrument	Status	Support Type	Sector	Activity status	Additional information
					XOF (USD 1 = XOF 550)	USD							
	. National project:												
10474 National child project under the GEF Africa Mini-grids Programme Burkina Faso	Support access to clean energy by increasing financial sustainability and promoting large-scale commercial investment in mini-grids	Multilateral (GEF)	Local authorities	ABER	233,511,300.	924,566.		Grant	Committed	Mitigation	Energy:	Start - pending state	
10291 Sustainable management of dryland landscapes in Burkina Faso	Restore dryland landscapes and sustainable livelihoods on a large scale through the adoption of SLM practices.	Multilateral (GEF)	Market	SP/CNDD	3,674,403,700.	6,680,734.		Grant	Committed	Cross-cutting	Agriculture Forest and land use Energy Water	Start - pending state	
9764 Integrated and Sustainable Management of	Safeguard critical wildlife	Multilateral (GEF)	Farmers	SP/CNDD	2,903,698,600.	5,279,452.		Grant	Received	Mitigation	Agriculture Forest	In progress	

Title of Programme/Project/Activity	Description	Channel	Beneficiary entity	Executing Entities	Received amount		Deadline	Financial instrument	Status	Support Type	Sector	Activity status	Additional information
					XOF (USD 1 = XOF 550)	USD							
PONASI Protected Area Landscape	habitat, biodiversity and ecosystem services in the PONASI protected areas complex.										and land use Water		
9318 Climate Resilience in the Nakambe Basin	Increase the resilience of communities in the Nakanbe basin against droughts and floods.	Multilateral (GEF)	Farmers, Local Communities	SP/CNDD	2,428,915,500.	4,416,210.		Grant	Received	Adaptation	Agriculture Forestry and land use Disaster risk management	In progress	
8032 Promoting Index-based Weather Insurance for Small Holder Farmers in Burkina Faso	Strengthening the resilience of smallholder farmers through climate insurance	Multilateral (GEF)	Farmers	SP/CNDD	2,456,396,250.	4,466,175.		Grant	Received	Adaptation		Closed	
5014 Integrating Climate Resilience into Agricultural and Pastoral Production for	Strengthen the capacity of Burkina Faso's agricultural and pastoral	Multilateral (GEF)	Farmers	Ministries of Agriculture, Environment and	GEF 2,095,500,000.	GEF 3,810,000.		Grant	Received	Adaptation	Agriculture Forest and land	Closed	

Title of Programme/Project/Activity	Description	Channel	Beneficiary entity	Executing Entities	Received amount		Deadline	Financial instrument	Status	Support Type	Sector	Activity status	Additional information
					XOF (USD 1 = XOF 550)	USD							
Food Security in Vulnerable Rural Areas Through the Farmers Field School Approach.	sectors by integrating climate change adaptation practices and strategies into ongoing agricultural development initiatives and agricultural policies and Programmes.			Animal Resources							use Water		
11000 Great Green Wall Climate Change Adaptation Regional Support Project	Improve access to best practices, foster innovation and digital transformation, and facilitate cross-learning among Great Green Wall countries to build climate resilience.	Multilateral (GEF)	Farmers	IFAD, OSS	GEF 4,912,831,000.	GEF 8,932,420.		Grant	Committed	Adaptation	Agriculture Forest and land use		Burkina Faso envelope is not known. The amount mentioned is for all countries

Title of Programme/Project/Activity	Description	Channel	Beneficiary entity	Executing Entities	Received amount		Deadline	Financial instrument	Status	Support Type	Sector	Activity status	Additional information
					XOF (USD 1 = XOF 550)	USD							
	Multi-country project												
10667 COVID-19 Off-grid recovery platform	Unlock and catalyze private capital to mitigate negative effects of the COVID-19 pandemic on Africa's energy access sector. Multi-country project	Multilateral (GEF)	Private Sector	AfDB	GEF 7,150,000,000.	GEF 13,000,000.		Grant	Committed	Mitigation	Energy:		Burkina Faso envelope is not known. The amount mentioned is for all countries
9910 Reversing Ecosystem and Water Degradation in the Volta River Basin (REWarD-Volta River Basin)	Reverse ecosystem and water degradation and support integrated ecosystem-based development in the Volta River Basin. Multi-country project	Multilateral (GEF)	GDWR	AVB, GDWR	GEF 3,917,411,300.	GEF 7,122,566.		Grant	Received	Adaptation	Water Disaster Risk Reduction	In progress	Burkina Faso envelope is not known. The amount mentioned is for all countries

Title of Programme/Project/Activity	Description	Channel	Beneficiary entity	Executing Entities	Received amount		Deadline	Financial instrument	Status	Support Type	Sector	Activity status	Additional information
					XOF (USD 1 = XOF 550)	USD							
Promoting Climate-Smart Agriculture in West Africa (Benin, Burkina Faso, Ghana, Niger, Togo)	Reduce the climate vulnerability of farmers and pastoralists.	Multilateral (GEF)	Farmers	ARAA	FA: 7,700,000,000.	FA: 14,000,000.		Grant	Received	Adaptation	Agriculture and Food Security		Burkina Faso envelope is not known. The amount mentioned is for all countries
Integration of climate change adaptation measures into the collaborative management of the WAP cross-border complex: ADAPT-WAP	Strengthen the climate resilience of ecosystems and improve the livelihoods of populations within the WAP complex.	Multilateral (GEF)	DGEF	OSS	FA: 6,344,910,000.	FA: 11,536,200.		Grant	Received	Adaptation	Disaster Risk Reduction and Early warning	In progress	Burkina Faso envelope is not known. The amount mentioned is for all countries

Title of Programme/Project/Activity	Description	Channel	Beneficiary entity	Executing Entities	Received amount		Deadline	Financial instrument	Status	Support Type	Sector	Activity status	Additional information
					XOF (USD 1 = XOF 550)	USD							
Integrating Flood and Drought Management and Early Warning for Climate Change Adaptation in the Volta Basin (Benin, Burkina Faso, Côte d 'Ivoire, Ghana, Mali, Togo)	Support the implementation of coordinated and joint measures to improve disaster risk management plans.	Multilateral (GEF)	GDWR	AVB, GWP-AO, WMO	FA: 4,356,000,000.	FA: 7,920,000.		Grant	Received	Adaptation	Disaster Risk Reduction and Early warning	In progress	Burkina Faso envelope is not known. The amount mentioned is for all countries
Scaling-up climate-resilient rice production in West Africa (Benin, Burkina Faso, IvoryCoast, Gambia (Republic of the), Ghana, Guinea, Liberia, Mali, Niger, Nigeria, Senegal, Sierra Leone and Togo)	Improve climate resilience and increase the productivity of the rice system for smallholder farmers.	Multilateral (GEF)	Farmers	MARAH/DGESS	FA: 7,700,000,000.	FA: 14,000,000.		Grant	Received	Adaptation	Agriculture and Food Security	In progress	Burkina Faso envelope is not known. The amount mentioned is for all countries
P149434 Local Forest Communities Support Project	Strengthen the capacity of targeted local communities to participate in REDD+	Multilateral ICF-IFP	Local authorities	IUCN	ICF: 2,343,000,000.	ICF: 4,260,000.	2023.	Grant	Received	Mitigation	Forest and land use	Closed	

Title of Programme/Project/Activity	Description	Channel	Beneficiary entity	Executing Entities	Received amount		Deadline	Financial instrument	Status	Support Type	Sector	Activity status	Additional information
					XOF (USD 1 = XOF 550)	USD							
	Programmes at local, national and global levels.												
XCTFBF785A DPSP III Renewable Energy and Access Project (REAP)		Multilateral: CIF-CTF	Private Sector		ICF: Donation (1,100,000,000) + (50,050,000,000)	ICF: Grant (2,000,000) Loan (91,000,000)		Grant, Loan		Mitigation	Energy:		
P143993 Decentralized forest and woodland management project	Promote an adaptation-based mitigation pathway that would both reduce poverty and limit forest and woodland degradation, thereby reducing greenhouse gas emissions.	Multilateral ICF-IFP	Local authorities	Ministry of Environment	ICF: 9,058,500,000.	ICF: 16,470,000.	2022.	Grant	Received	Mitigation	Forest and land use Energy Agriculture	Closed	
Sustainable Management of Communal	Strengthen sustainable landscape	Multilateral World Bank	Local authorities	MEEA/SP/REDD+	IDA: Grant (31,075,000,000) +	IDA: Grant (56,500,0	2028.	Grant Loan	Received	Mitigation	Forest and land	In progress	

Title of Programme/Project/Activity	Description	Channel	Beneficiary entity	Executing Entities	Received amount		Deadline	Financial instrument	Status	Support Type	Sector	Activity status	Additional information
					XOF (USD 1 = XOF 550)	USD							
Landscapes for REDD+ Project (PGPC/REDD+, P170482)	management and improve income generation in targeted forest areas.				Loan (31,075,000,000) Integrated Landscape & Forest Management MDTF: Donation (6,600,000)	00) + Loan (56,500,000) Integrated Landscape & Forest Management MDTF: Donation (12,000,000)					use Energy Agriculture		

4.3.3. Information on funding mobilized by public interventions

Chapter 4 contains only support mobilized through multilateral sources.

4.4 Information on support for technology development and transfer provided under Article 10 of the Paris Agreement

The Convention recommends that all Parties encourage and support, through their cooperation, the development, application and dissemination, including through transfer, of technologies, practices and processes that control, reduce or prevent anthropogenic emissions of certain GHGs in all relevant sectors (Article 4.1 c).

The Climate Technology Centre and Network (CTCN), operational arm of the Convention's Technology Mechanism, assists countries in developing their Technology Needs Assessment (TNA) documents. It also facilitates the development of solid project proposals from the TNA, Technology Action Plan and project ideas.

4.4.1 Information on support for technology development and transfer provided under Article 10 of the Paris Agreement

Burkina Faso's technological needs for adaptation to effects of climate change relate to agriculture and forestry sectors, identified as one of the most vulnerable sectors in the country and therefore a priority.

Under the Agriculture sector, these are:

- promote biodigesters;
- make the combination of Stony Cords + Zai + RNA;
- promote the technique of mechanized subsoiling or making micro-basins with a Delfino plough for the rehabilitation of degraded land for forestry and pastoral purposes;
- build stormwater collection basins (BCER).

Under the Forestry sector, these are:

- promote Household Improved Fireplaces;
- developing and managing natural forests;
- create conservation areas with a communal vocation by the local authorities.

The assessment and prioritization of technology needs (TNA) carried out by Burkina Faso, in connection with mitigation, concerned the Energy and Transport sectors.

The three (03) technologies selected for the energy sector are Enhanced Fireplaces, Hydroelectric Power Plants and Photovoltaic Solar Roofs.

In the transport sector, the three (03) technologies selected are trams, Biodiesel and Solar Buses.

After the assessment, prioritization of technological needs, processing, barrier analysis and identification of the framework conducive to dissemination of selected technologies, a Technology Action Plan and project ideas were developed with a funding need estimated at XOF 205.594 billion in accordance with the following Table 56.

Table 56 : Technological Action Plan

Project title	Duration	Overall Objective	Technology	Aid Type	Sector	Budget 1st Phase
Optimization of the productivity of family farms (OPEXA)	Planned in several phases by 2030	Optimize the productivity of family farms while improving their sustainability, thanks to technological package composed of CP-Zai-RNA combination, Biodigester and BCER	- Zai stone cords - assisted natural regeneration; - Runoff water collection basins; - Biodigester.	- Adaptation	- Agriculture	XOF 48.235 billion
Restoration of degraded land for multiple purposes in Burkina municipalities	Planned in several phases by 2030	Secure and sustainably manage pastoral resources, with a view to improving animal productivity.	Rehabilitation of degraded land for sylvo-pastoral purposes	Adaptation	Agriculture	XOF 62.5 billion
Reduction of GHG emissions and adaptation to climate change through the dissemination of improved stoves in Burkina Faso	Planned in several phases by 2030	Promote the use of Improved Fireplaces with a view to saving wood energy consumption and contributing to reduction of emissions of gases with effects by preserving carbon sinks that are forests	Promotion of Improved Household Stoves	Adaptation	Forestery	XOF 40.309 billion
Decentralized management of forestry resources	Planned in several phases by 2030	Enhance carbon sequestration potential and biological diversity, while improving forest productivity for the benefit of the poorest populations.	Creation of communal conservation areas	Adaptation	Forestery	XOF 54.55 billion

Source **:** *Technological Action Plan*

To benefit from technical assistance of CTCN, the country submitted requests. Approval process for these requests remained at the Response Plan stage. Table 57 below highlights the situation of these requests.

Table 57 : Technical assistance offered by Burkina-Faso

Title of Activity/Project/Programme:	Description	Solution Type (Mitigation /Adaptation or Intersectoral)	Tchnology Type	Deadline	Sector	Intended Use, Impact and Estimated Outcomes	Estimated costs in USD
Using digital technologies to develop a methodology to increase climate resilience in Ouagadougou town through nature-based solutions.	Technical assistance aims to strengthen the resilience of Ouagadougou town through implementation of climate change adaptation actions combining many technologies that mainly use live plants to promote urban green infrastructures.	Adaptation+ Mitigation	Satellite technology + urban greening and green urban infrastructure	15 months	Infrastructure and Housing	Identification, protection, security and enhancement of new green spaces and green infrastructures with an impact; Increasing the Ouagadougou town resilience to climate change effects	230.00. 250, 000
Strengthening the implementation of climate change mitigation and adaptation actions through the development of energy systems at off-grid agro-industrial facilities through the creation of a (Community Solar Energy Platform).	The project promotes solar energy adoption in agro-industrial facilities of rural cooperatives by using innovative payment models such as (pay -as -you- us) to facilitate access to energy for the purpose of strengthening climate resilience and carbon efficiency.	Adaptation+ Mitigation	Solar energy	15 months	Agriculture	Provision of affordable energy, thus making it possible to mechanize agro-industrial activities and free up time for other activities; Increasing access to energy for the development of health, education and food processing services in rural areas; Saved 2300 tons of CO_2 for about 2MWp installed.	175250-184500

In addition to these projects that have passed the response plan, five other requests for technical assistance have been formulated by the country and have not yet passed the response plan stage.

These include:

- improving resilience of rural households and forest ecosystems through the production of non-timber forest products via polyter technology use (PARMeREF-PFNL);
- strengthening towns resilience through the implementation of climate change mitigation and adaptation actions with a view to promoting and enhancing green infrastructure;
- optimizing the promotion of a wild woody food legume, zamne (Senegalia macrostachya) as an alternative to climate change mitigation and adaptation solutions through village agroforestry plantations to produce grains and improve agricultural production in Burkina Faso;
- digitization and scaling up of ecosystem-based adaptation (EbA) and climate services for resilient natural resources and agro-pastoral communities in the Sahel;
- setting up a climate-smart agro-sylvo-pastoral school farm to strengthen resilience of communities and ecosystems.

4.4.2 Information on support for technology development and transfer provided under Article 10 of the Paris Agreement

The Convention technology mechanism provides for the submission by countries of requests for technical assistance and their assessment by the Climate Technology Centre and Networks (CTCN). The assessment is sanctioned by a process of refinement and development of Response Plan. This last step follows the intervention plan step. This will be followed by the final validation of the project and its effective implementation. However, Burkina Faso's requests were limited to the response plan stage. It can therefore be said that the country has not received technical assistance from the CTCN.

4.5 Information on capacity-building support provided or received under Article 11 of the Paris Agreement

Tous Not all developing countries have the capacity to address various challenges posed by climate change. This is why the Paris Agreement places great importance on building the climate capacity of developing countries and calls on all developed countries to strengthen their support for capacity building actions in developing countries. In this dynamic and for the sake of transparency, developing country Parties to the Agreement should regularly provide information on the support received and that needed in terms of capacity building.

4.5.1 Information on capacity-building support provided or received under Article 11 of the Paris Agreement

Support at this level is assessed on the basis of preparation requests to the Green Climate Fund (GCF), the total cost of which amounts to USD 7,400,000, as in the following table 58.

Table 58 : Green Climate Fund preparation requests

Title (Programme, Activity or project)	Programme/Project description	Estimated GCF Funding (USD)	Submission Date	Support type (Mitigation, Adaptation or Inter-sectoral)	Intended Use, Impact and Estimated Outcomes
Strengthening coordination mechanisms for climate finance.	- Establish a formal public architecture of climate finance in Burkina Faso and define a model for the organization of a national public architecture on climate finance; - Adopt texts setting up the structured dialogue framework on climate finance; - Setting up a finance committee or FC - Update the Country Programme in light of the evolution of the country portfolio and national priorities; - Setting up a videoconferencing device; - Build the capacity of SE-FVC/BF staff and members of ETCs and FCs	350,000.	2020.	Cross-sectoral	
Supporting Direct Access Accredited Entities (DAEs) in mobilizing climate finance	- Analyze institutional gaps in potential DAEs (fiduciary standards, GCF safeguards and compliance policies, environmental and social standards, etc.); - Strengthen the skills of DAEs in the identification, design, management and monitoring of climate projects; - (ii) Support the development of DAEs Strategic Plans (EWP) to enable Burkina Faso to increase its portfolio of projects/programmes.	300,000.	2022.	Cross-sectoral	
Resource mobilization and implementation of climate projects/programmes in this context of insecurity, conflict and health crisis	- Strengthen the skills of actors working in fragile territories.	500,000.	2021.	Adaptation	

Creation of a climate-smart forest seed centre for Burkina Faso	- Have climate-resilient forest seeds according to the country's three agro-climate zones; - Put in place sector expertise, strategic framework, a range of programmes, know-how and partnerships to implement climate-smart AFAT sector project portfolios by 2023 as part of the country's NDC and Land Degradation Neutrality (LDN) targets by 2030.	1,050,000.	2020.	Adaptation	
Strengthening stakeholder engagement in the Green Climate Fund (GCF)	- Develop stakeholder engagement strategies (including the private sector) with communication plans and tools focused on the country Programme, NDC and NAP; - Undertake dissemination of reference documents to stakeholders and strengthen consultation frameworks to present green investment opportunities to stakeholders; Conduct a study on the contribution of current strategies to mobilization of private resources in the climate field; Conduct a study on risk analysis related to priority sectors of climate investment.	300,000.	2021.	Cross-sectoral	
Setting up a MRV system support for Climate finance and and development of a monitoring system on performance of climate projects	- Set up a system of MRV support on Climate Finance (having the standards for characterizing climate projects and a codification of climate financial flows, etc.); - Develop a performance monitoring system (Develop and implement monitoring tools - portfolio performance assessment, etc.); - Develop a monitoring and evaluation system integrating a dynamic platform for monitoring climate projects on the national territory.	600,000.	2022.	Cross-sectoral	
Integration of adaptation into sub-national planning, strengthening institutional frameworks and development	- Strengthen and operationalize NAP coordination mechanism and set up an information sharing mechanism; Increase private sector engagement in adaptation planning at national, sectoral and/or local level, and business resilience;	1,500,000.	2020.	Adaptation	

of a financing strategy and project concept notes for Burkina Faso NAP implementation;	- Develop a NAP funding strategy, including capacity building for its implementation; - Define and operationalize a formal framework for collaboration between the various actors involved in adaptation planning, including those in NAP monitoring and evaluation system.				
Strengthened local and national adaptation planning and increased investment in climate change adaptation	- Evaluate the inclusion of adaptation to climate change in the main planning frameworks and revise them. Strengthen communication and advocacy on climate change adaptation financing; - Conduct 13 regional vulnerability studies. Develop 13 regional climate change adaptation plans with financing strategies; - Conduct a study on the integration of climate investment criteria into projects and programmes; - Settig up a transparent mechanism to facilitate access to GCF resources for all national actors; - Continue integrating climate change (including REDD+) into planning.	1,500,000.	2023	Adaptation	
Creation of an environment conducive to expanding portfolio of projects and programmes	- Continue the training of actors involved in the development of projects and programmes (simplified approval procedure (SAP) or Funding proposal); Develop concept notes for priority sectors, including within the framework of SAP, calls for proposals for modalities that facilitate direct access, and /or those that target PPF assistance; - Conduct advocacy for REDD+ consideration in the legal framework.	300,000.	2021.	Cross-sectoral	
Institutionalizing climate change learning.	- Integrate climate change and climate finance learning into education and vocational training system in Burkina Faso; - Strengthen the technical and functional capacities of institutions in charge of teaching and training; Strengthen the	600,000.	2022.	Cross-sectoral	

	technical and scientific skills of human resources in charge of teaching and training; - Develop and validate curricula integrating learning on climate change and climate finance.				
Strengthening the technical and scientific capacities of research centers, universities and professional training centers on climate change.	- Equip research centers and universities with necessary infrastructure, equipment and human resources to generate knowledge, develop and disseminate good practices and innovations in mitigation and climate resilience.	400,000.	2022.	Cross-sectoral	
Total		**7,400,000.**			

Source: Readiness needs assessment-Burkina Faso

4.5.2 Information on capacity-building support provided or received under Article 11 of the Paris Agreement

As part of capacity building, Burkina Faso received support for the deployment of seven (07) readiness Programmes. If the first four (04) are closed, the last three (03) are under implementation and are focused on capacity building of NDA/GCF and its network, adaptation planning and national capacity building to improve access to climate finance. The overall cost of this support is USD 8,365,466.001.

Information on capacity building support received is transcribed in the following table 59:

Table 59: Information on capacity building support received

Programme/project/activity title	Programme/Project description	Executing Entities	Beneficiary entity	Costs	Support type (Mitigation, Adaptation or Inter-sectoral))	Deadline	Activity status (planned, in progress or complete)
BFA-RS-001 Strengthen Burkina Faso's commitment with GCF: Establish and strengthen national institutions to engage with GCF and formulate a country Programme.	This grant was intended to build the capacity of newly established NDA to enable engagement with the GCF	IUCN	NDA & network	USD 300,000	Adaptation	2017 to April 2018	Completed
BFA-RS-002 Assessing opportunities in the forest and land use sector in Burkina Faso to support climate change adaptation and mitigation interventions, particularly under the Great Green Wall initiative.	The overall objective of this Programme was to identify adaptation and mitigation measures for the Great Green Wall (GGW). This set of interventions complements the national REDD+ readiness process under the Forest Investment Programme (FIP) and FCPF	FAO	NDA & network	USD 342,815	Adaptation	2018 to April 2019	Completed
BFA-RS-003 Support for accreditation of direct access entities, pipeline development and private sector mobilization in Burkina Faso	This project overall aim was to strengthen capacities of government agencies and entities applying for accreditation in the development and management of climate projects, and through the development of a	GGGI	NDA & network	USD 442,000	Adaptation	2019 to April 2021	Completed

	GCF concept note for mitigation and/or adaptation projects						
BFA-RS-004 Strengthening technical and operational capacities of Designated National Authority (NDA) and its network to provide strategic support to stakeholders involved in the activities of Green Climate Fund in Burkina Faso.	The overall objective of this readiness is to strengthen the technical and operational capacities and skills of the NDA executive secretariat and its network, so that they can provide effective support for the development and implementation of climate change mitigation and adaptation actions in Burkina Faso. Specifically, these include: (i) improve skills and knowledge on GCF project cycle management standards for staff of the NDA Executive Secretariat, on climate project development for at least sixteen members of the Scientific and Technical Committee; (ii) provide adequate knowledge and capacity on green climate fund processes to at least one hundred national and sub-national stakeholders (implementing entities,	IUCN	NDA and network	USD 412,008	Adaptation	October 2022 to April 2024	In progress of closing

	regional and municipal advisors, local associations and non-governmental organizations); and (iii) develop a relevant partnership framework for autonomous institutional capacity development to support the development and implementation of GCF activities in Burkina Faso						
BFA-RS-OO5 Integration of adaptation into sub-national planning, strengthening institutional frameworks and development of a financing strategy and project concept notes for Burkina Faso NAP implementation;	This grant aims to support the implementation of Burkina Faso's NAP by integrating adaptation into sub-national planning, strengthening institutional frameworks, and developing a financing strategy and concept notes to access climate finance	GGGI	NDA and network	USD 1,630 000	Adaptation	January 2022 to June 2024	In progress
BFA-RS-006 Strengthened sector expertise and strategic framework to support the implementation of CAPTD for productive and resilient landscapes and livelihoods in AFOLUs across Burkina Faso (acronym R-CAPTD)	Specifically, the Programme aims to: (i) establish adequate sectoral expertise, systems and networks to support the planning, programming and implementation of GCF-funded activities and other sources; (ii) develop a strategy and work programme based	ICRAF World Agroforestry Center (ICRAF)	NDA and network	USD 1,599 717, 001	Adaptation	January 2024 to December 2026	Start-pending state

	on country priorities, including national programmes and GCF focus areas; (iii) prepare and submit a high-quality project concept note to support future funding proposals targeting the implementation of Climate Adapted Tree Diversity Portfolios (CAPTD) in Burkina Faso; (iv) develop and share best practices with national, regional and international partners, promoting the development and dissemination of methodologies, frameworks and information systems to improve climate finance programming at national and regional sub-national levels						
BFA-RS-007 Strengthening national capacities to improve access to climate finance	This preparation programme aims to strengthen national technical and institutional capacities, in particular those of the FIE, for a strong mobilization of climate finance and maintenance of accreditation standards	Environmental intervention Fund (EIF)	NDA and network	USD 452,896.00	Adaptation	August 2024 to December 2026	In progress

Strengthen the capacities of WAEMU subnational governments to access climate finance and develop a pipeline of projects to support their countries' climate objectives.	This readiness aims to strengthen the capacities of WAEMU subnational governments to access climate finance and develop a pipeline of projects to support their countries' climate objectives.	United Cities and Local Governments of Africa (UCLG Africa)	NDA and network	USD 1,735 000	Adaptation	Approved in 2023	In progress
Strengthen ECOWAS institutional capacities and Member States' access to climate finance to support the implementation of the agricultural sector priorities of the ECOWAS Regional Climate Strategy. ECOWAS Climate	The objective of this regional preparedness programme is to facilitate the mobilization and financing of priority agricultural actions for mitigation and adaptation of the regional climate strategy by strengthening Commission technical and institutional capacities and its Member States to make regional agricultural policies resilient in line with the regional climate strategy for the Community area and to formulate resilient and low-carbon agricultural projects.	ECOWAS Regional Agency for Food and Agriculture (ARAA)	NDA and network	USD 1,451,030	Adaptation	Approved in 2023	In progress
Total				8,365,466.001.			

4.6 Information on financial support required and received for the implementation of Article 13 of the Paris Agreement and transparency-related activities, including for transparency-related capacity building

Article 13 of the Paris Agreement provides that support shall be provided to developing countries for the implementation of the said article, but also that support shall be provided to them for the ongoing strengthening of their transparency capacities.

Burkina Faso has received grants for development of several reports pursuant to Article 13 of the Paris Agreement. This support over the period 2021 to 2024 allowed the development of the following documents:

- the third communication on climate change including the inventory report;
- the First Updated Biennial Report;
- Nationally Determined Contribution (NDC);
- the long-term low-carbon development strategy;
- the first transparency report and the fourth national communication.

The table 60 shows country amount both for developing periodic reports but also for capacity building related to transparency.

Table 60 : Support received for the development of transparency reports

Title (Programme, Project or Activity)	Amount		Activity status (planned, in progress or completed)
	USD	XOF	
Development of the Third Communication on Climate Change	480,000.		Completed
Development of the First Updated Biennial Report	342,000.		Completed
Development of the first transparency report and the fourth national communication.	1,233,000.		In progress
long-term Vision 2050 low-carbon development strategy;	1,445,000.		Completed
Nationally Determined Contribution (2021-2025)	1,094,000.		Completed
Total	**1,916,000.**		
Average	**319333.3333.**		

Source: *Team of QCN/BTR1 finance experts*

With regard to support required for reporting, it should be noted that based on previous experiences in developing the above documents and the amounts mobilized for their

development (Table 61see below), the country will need an average of USD 319,333.3333 for each report development as part of the fulfilment of its commitments under Article 13 of the Paris Agreement.

Table 61 : Support received for transparency-related capacity building

Title (Programme, Project or Activity)	Amount		Activity status (planned, in progress or completed)
	USD	XOF	
Burkina Faso Transparency Capacity Building Project.	1,091,000.		Completed
Capacity building workshop for national experts on the 2006 IPCC Guidelines and its software.	18,360.		Completed
Capacity building workshop for national experts on the GACMO tool for monitoring progress in the NDCs implementation and achievement.	18,360.		Completed
Total	**1,127,720.**		

Source: *Team of QCN/BTR1 finance experts*

The Table 62 below summarizes the various supports received under transparency.

Table 62 : Summary of Transparency Support Received

Title (Programme, Project or Activity)	Amount		Activity status (planned, in progress or completed)
	USD	XOF	
Burkina Faso Transparency Capacity Building Project.	1,091,000.		Completed
Development of the Third Communication on Climate Change	480,000.		Completed
Development of the First Updated Biennial Report	342,000.		Completed

Development of the first transparency report and the fourth national communication.	1,233,000.		In progress
long-term low-carbon development strategy;	1,445,000.		Completed
Nationally Determined Contribution (NDC),	1,094,000.		Completed
Capacity building workshop for national experts on the 2006 IPCC Guidelines and its software.	18,360.		Completed
Capacity building workshop for national experts on the GACMO tool for monitoring progress in the NDCs implementation and achievement.	18,360.		Completed
Total	**3,043,720.**		

Source: *Team of QCN/BTR1 finance experts*

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ANNEXES

Annexe 1: Tableau es indicateurs de la CDN

Secteur	Scenario	Mesures de la CDN	Indicateur de la CDN	Indicateurs Proposés	Unité de l'indicateur	Description de l'indicateur	Valeur de référence	Cible 2030	Valeur actuelle	Source de vérification	Responsable
Energie	Inconditionnel	Acquisition et installation 15 000 lampadaires à diodes électroluminescentes (LED) en remplacement des lampadaires haute pression de sodium et de mercure au profit de l'éclairage public	Nombre de lampes LED installés		Lampes LED	L'indicateur permet de suivre l'évolution des quantités de lampes installées dans les places publics et les places communautaires	0	15000	15 000	Rapport de performance	MEMC
		Construction des centrales solaires à Koudougou (20 MWc) et Kaya (10 MWc) d'une capacité de 30 MWc, y compris le renforcement du réseau 220 km (Yeleen)	Puissance de la centrale	Puissance installée d'EnR (solaire), grand réseau	MW	Il mesure la Puissance annuelle installée d'EnR (solaire) connectée au réseau principal	0	30		Rapport de performance	MEMC
				Perte evitée d'énergie electrique	GWh	Il mesure la reduction des pertes d'energie	0				
		Construction la centrale solaire photovoltaïque à Essakane	Puissance de la centrale	Puissance installée d'EnR (solaire) hors	MW	Puissance annuelle installée d'EnR (solaire) hors réseau	0	15	15		MEMC

Secteur	Scenario	Mesures de la CDN	Indicateur de la CDN	Indicateurs Proposés	Unité de l'indicateur	Description de l'indicateur	Valeur de référence	Cible 2030	Valeur actuelle	Source de vérification	Responsable
		d'une puissance de 15 MWc		réseau sur le site							
		Construction la centrale solaire photovoltaïque à Matourkou d'une puissance de 14 MWc avec 6 MWh de stockage (KFW)	Puissance de la centrale	Puissance installée d'EnR (solaire), grand réseau avec stockage	MW	Il mesure la Puissance annuelle installée d'EnR (solaire) connectée au réseau principal avec stockage	0	14		Rapport SONABEL	MEMC
		Projet d'extension de la centrale Solaire photovoltaïque de Zagtouli (17MWc)	Puissance de la centrale	Puissance installée d'EnR (solaire), grand réseau	MW	Il mesure la Puissance annuelle installée d'EnR (solaire) connectée au réseau principal		17		Rapport SONABEL	MEMC
		Projet d'acquisition et d'installation d'équipements solaires dans les bâtiments publics		Nombre de lampadaires solaires installés dans les bâtiments publics	Lampadaires solaires	Les lampadaires solaires installés dans les places publics et les places communautaires		2474	45 sites soit 96% (le reste en attente de reception) PRIS FIN DEPUIS 2021	Rapport de performance du ministère	MEMC
			Nombre d'equipements			Nombre de chauffe-eau solaires installés dans les bâtiments publics	Chauff-eau solaire	240		Rapport de performance du ministère	MEMC

Secteur	Scenario	Mesures de la CDN	Indicateur de la CDN	Indicateurs Proposés	Unité de l'indicateur	Description de l'indicateur	Valeur de référence	Cible 2030	Valeur actuelle	Source de vérification	Responsable
		Construction la centrale solaire photovoltaïque à Dori (Yeleen) d'une puissance de 6,29 MWc (Yeleen)	Puissance de la centrale	Puissance installée d'EnR (solaire), grand réseau	MW	Il mesure la Puissance annuelle installée d'EnR (solaire) connectée au réseau principal	0	6,29	6	Rapport SONABEL	MEMC
		Construction la centrale solaire photovoltaïque à Diapaga d'une puissance de 2,2 MWc (Yeleen)	Puissance de la centrale	Puissance installée d'EnR (solaire), grand réseau	MW	Il mesure la Puissance annuelle installée d'EnR (solaire) connectée au réseau principal	0	2,2	2	Rapport SONABEL	MEMC
		Construction la centrale solaire photovoltaïque à Gaoua d'une puissance de 1,13 MWc (Yeleen)	Puissance de la centrale	Puissance installée d'EnR (solaire), grand réseau	MW	Il mesure la Puissance annuelle installée d'EnR (solaire) connectée au réseau principal	0	1,13	1	Rapport SONABEL	MEMC
		Projet d'énergie solaire pour des CSPS hors réseaux		Puissance installée d'EnR (solaire) hors réseau	MW	Puissance annuelle installée d'EnR (solaire) hors réseau				Rapport ABER	MEMC
				Nombre de CSPS électrifié par kits solaires	Nombre	Il s'agit du nombre de CSPS électrifié par énergie solaire	80		162		
		Projet d'électrification par système solaire des		Puissance installée provenant des mini-	KW	Puissance annuelle installée provenant des mini-réseaux solaires				Rapport de performa	MEMC

Secteur	Scenario	Mesures de la CDN	Indicateur de la CDN	Indicateurs Proposés	Unité de l'indicateur	Description de l'indicateur	Valeur de référence	Cible 2030	Valeur actuelle	Source de vérification	Responsable
		infrastructures sociocommunautaires dans 300 localités rurales		réseaux solaires						nce du ministère	
				Nombre d'infrastructure socio-communautaires électrifiés par système solaire	Nombre		231	54 % (1226 KITS solaire 2862 lampadaires 394 chauffeau) sans évolution pour cause d'insécurit	603		

Secteur	Scenario	Mesures de la CDN	Indicateur de la CDN	Indicateurs Proposés	Unité de l'indicateur	Description de l'indicateur	Valeur de référence	Cible 2030	Valeur actuelle	Source de vérification	Responsable
								é. Mais le projet a pris fin en 2021			
		Projet d'acquisition et d'installation des climatiseurs efficaces en remplacement des mono blocs dans les bâtiments publics	Nombre de climatiseurs installés		Climatiseurs	Il mesure le nombre de climatiseurs efficaces installés en remplacement des climatiseurs mono blocs		Non réalisé pour faute de financement		Rapport de performance du ministère	MEMC
		Projet backup solaire		Puissance installée d'EnR (solaire) hors réseau	kWc	Puissance annuelle installée d'EnR (solaire) hors réseau	**71 712**		**365 642**	Rapport ANEREE	MEMC
				Nombre de kits solaires	**Nombre**	Il s'agit du nombre de kits solaires installés tout type confondu installés	**14**		**1 527**	Rapport ANEREE	MEMC

Secteur	Scenario	Mesures de la CDN	Indicateur de la CDN	Indicateurs Proposés	Unité de l'indicateur	Description de l'indicateur	Valeur de référence	Cible 2030	Valeur actuelle	Source de vérification	Responsable
				Nombre de lampes solaires à LED	Lampes solaires à LED	Il mesure le nombre de lampes à LED installées				Rapport ANEREE	MEMC
		Projet de construction de 34 mini-centrales solaires photovoltaïques avec stockage dans les centres médicaux avec antenne chirurgicale (CMA) Ces systèmes solaires installés dans chacun des CMA, ont une puissance comprise entre 30 kWc et 50 kWc avec une capacité de stockage d'au moins 3000 Ah	Puissance de la centrale	Puissance installée d'EnR (solaire) avec stockage (ligne 101)	MW	Il mesure la Puissance annuelle installée d'EnR (solaire) avec stockage		64 % sans évolution pour cause d'insécurité. Mais le projet a pris fin en 2021			MEMC
					MWh	Cumul des économies d'énergie par l'usage des lampes et luminaires à LED en MWh /DGE	50 219		56 940	Annuaire statistique 2023	MEMC

Secteur	Scenario	Mesures de la CDN	Indicateur de la CDN	Indicateurs Proposés	Unité de l'indicateur	Description de l'indicateur	Valeur de référence	Cible 2030	Valeur actuelle	Source de vérification	Responsable
		Acquisition et installation 10 500 lampadaires à diodes électroluminescentes (LED) en remplacement des lampadaires haute pression de sodium et de mercure au profit de l'éclairage publique	Nombre de lampes LED installées		Lampes LED	L'indicateur permet de suivre l'évolution des quantités de lampes installés dans les places publics et les places communautaires		10500	10 500	DGE	MEMC
		Acquisition et installation 3 000 lampadaires à diodes électroluminescentes (LED) en remplacement des lampadaires haute pression de sodium et de mercure au profit de l'éclairage public dans les rues de Ouagadougou (PASEL)	Nombre de lampes LED installées		Lampes LED	L'indicateur permet de suivre l'évolution des quantités de lampes installés dans les places publics et les places communautaires		3000	3000	DGE	MEMC

Secteur	Scenario	Mesures de la CDN	Indicateur de la CDN	Indicateurs Proposés	Unité de l'indicateur	Description de l'indicateur	Valeur de référence	Cible 2030	Valeur actuelle	Source de vérification	Responsable
		Acquisition et installation 1 500 lampadaires à diodes électroluminescente (LED) en remplacement des lampadaires haute pression de sodium et de mercure au profit de l'éclairage publique dans les rues de Bobo Dioulasso (PASEL)	Nombre de lampes LED installées		Lampes LED	L'indicateur permet de suivre l'évolution des quantités de lampes installés dans les places publics et les places communautaires		1500	1500	DGE	MEMC
		Acquisition et installation 1 500 000 lampes à diodes électroluminescentes (LED) en remplacement des lampes à tubes fluorescentes dans les ménages	Nombre de lampes LED installées		Lampes LED	L'indicateur permet de suivre l'évolution des quantités de lampes installés dans les places publics et les places communautaires		1500000	1500000	DGE	MEMC

Secteur	Scenario	Mesures de la CDN	Indicateur de la CDN	Indicateurs Proposés	Unité de l'indicateur	Description de l'indicateur	Valeur de référence	Cible 2030	Valeur actuelle	Source de vérification	Responsable
		Construction de la centrale solaire photovoltaïque à Ouagadougou d'une puissance de 43 MWc (Ouaga Nord Ouest) (Yeleen)		Puissance installée d'EnR (solaire) Grand réseau	MW	Puissance annuelle installée d'EnR (solaire) Grand réseau	0	43			MEMC
	Conditionnel	Projet de construction d'une centrale solaire de Dédougou (18 MWc)		Puissance installée d'EnR (solaire) Grand réseau	MW	Puissance annuelle installée d'EnR (solaire) Grand réseau	0	18	0 (bouclage financier non réalisé du à la situation sécuritaire)		MEMC
		Projet de construction de 3 centrales solaires photovoltaïques à vocation régionale d'une puissance cumulée de 300 MWc dont 150 MWc dans une première phase (Kaya 1 et Koupéla 2)		Puissance installée d'EnR (solaire) Grand réseau	MW	Puissance annuelle installée d'EnR (solaire) Grand réseau		300	préavis d'appel a concurrence	DMP	MEMC

Secteur	Scenario	Mesures de la CDN	Indicateur de la CDN	Indicateurs Proposés	Unité de l'indicateur	Description de l'indicateur	Valeur de référence	Cible 2030	Valeur actuelle	Source de vérification	Responsable
		Projet de déploiement de cinquante mille (50 000) kits solaires de type Solar Home System 2 (SHS2) (60 Wc)au profit des ménages au Burkina ligne 94	Nombre de kits solaire	Puissance installée d'EnR (solaire) hors réseau	W	Puissance annuelle installée d'EnR (solaire) hors réseau	0	3 000 000	0	Rapport ANEREE	MEMC
		Projet de construction d'une centrale thermique à biomasse-déchets de 10 MW à Ouagadougou LIGNE 13		Puissance installée d'EnR Grand réseau à partir des résidus de biomasse	MW	Puissance annuelle installée d'EnR à partir des résidus de biomasse		10	pas encore demarré. Mais note conceptuel fait		MEMC
		Projet de construction d'une centrale solaire à Pâ (30 MWc)		Puissance installée d'EnR (solaire) Grand réseau	MWc	Puissance annuelle installée d'EnR (solaire) Grand réseau	0	30	30	DGE	MEMC
		Projet de construction d'une centrale solaire à Kalzi (30 MWc)		Puissance installée d'EnR (solaire) Grand réseau	MWc	Puissance annuelle installée d'EnR (solaire) Grand réseau	0	30	0 (bouclage financier non réalisé)	DGE	MEMC

Secteur	Scenario	Mesures de la CDN	Indicateur de la CDN	Indicateurs Proposés	Unité de l'indicateur	Description de l'indicateur	Valeur de référence	Cible 2030	Valeur actuelle	Source de vérification	Responsable
		Construire une centrale solaire à Zano (24 MWc)		Puissance installée d'EnR (solaire) Grand réseau	MWc	Puissance annuelle installée d'EnR (solaire) Grand réseau	0	24	24	DGE	MEMC
Transport	Inconditionnel	Projet d'appui à la modernisation du secteur des transports (PAMOSET-FC) composante " Mise en place d'un système de renouvellement pérenne du parc"	Nombre de véhicules usagers retirés de la circulation Ligne 116	Nombre de vehicules importés en remplacement des vehicules d'occasion	Véhicules importés	L'indicateur permet de suivre l'évolution du nombre de vehicules d'occasion remplacés par des vehicules neufs	0	140	125	Rapport de performance du Programme sectoriel transport	Ministère transport
		Projet de mobilité urbaine du Grand Ouagadougou	Nombre de nouveau bus mis en circulation	Linéaire parcouru par les bus mis en circulation	km de ligne de autobus	L'indicateur mesure le linéaire parcouru par les autobus mis en circulation	0	330		Rapport, PV	Ministère transport

Secteur	Scenario	Mesures de la CDN	Indicateur de la CDN	Indicateurs Proposés	Unité de l'indicateur	Description de l'indicateur	Valeur de référence	Cible 2030	Valeur actuelle	Source de vérification	Responsable
		Projet de réalisation de l'interconnexion ferroviaire Accra-Ouagadougou	Linéaire de voie ferrée construit	Nombre de passagers transportés desormais par le train par kilometre et par jour	Passagers transportés en million/km/jour	L'indicateur determine le nombre de passagers qui abandonnent les vehicules au profit du train	0	320		Rapport, PV	Ministère transport
				Quantité de marchandises transportées desormais par le train par kilometre et par le jour	Tonne/Km/jour	L'indicateur mesure la quantité de marchandises transportée par le train en lieu et place des vehicules					
	Conditionnel	Projet de réhabilitation de la ligne ferroviaire Frontière Côte d'Ivoire-Ouaga-Kaya	Linéaire de voie ferrée construit	Nombre de passagers transportés desormais par le train	Nombre de passagers transportés	L'indicateur determine le nombre de passagers qui empreintent le train	ND	ND		Rapport, PV	Ministère transport
				Quantité de marchandises transportées par le train	Tonne	L'indicateur mesure la quantité de marchandises transportée par le train	ND	ND			

Secteur	Scenario	Mesures de la CDN	Indicateur de la CDN	Indicateurs Proposés	Unité de l'indicateur	Description de l'indicateur	Valeur de référence	Cible 2030	Valeur actuelle	Source de vérification	Responsable
	Conditionnel	Projet de transport urbain de Bobo-Dioulasso	Nombre de nouveaux bus mis en circulation	Linéaire parcouru par les bus mis en circulation	km de ligne de autobus	L'indicateur mesure le linéaire parcouru par les autobus mis en circulation	ND	ND		Rapport, PV	Ministère transport
		Projet de construction du chemin de fer Kaya-Frontière Niger		Nombre de passagers transportés desormais par le train	Passagers transportés	L'indicateur determine le nombre de passagers qui abandonnent les vehicules au profit du train					
			Linéaire de voie ferrée construit	Quantité de marchandises transportée desormais par le train par kilometre et par le jour	Tonne/Km/jour	L'indicateur mesure la quantité de marchandises transportée par le train en lieu et place des vehicules	0	225		Rapport, PV	Ministère transport
		Projet de mise en place d'une desserte ferroviaire urbaine et périurbaine lourde de la ville d'Ouagadougou à partir de la ligne existante	Linéaire de voie ferrée construit	Nombre de passagers transportés desormais par le train par kilometre et par jour	Passagers transportés en million/km/jour	L'indicateur determine le nombre de passagers qui abandonnent les vehicules au profit du train	0	60		Rapport, PV	Ministère transport
				Quantité de marchandises transportée desormais par le train par kilometre et par le jour	Tonne/Km/jour	L'indicateur mesure la quantité de marchandises transportée par le train en lieu et place des vehicules					

Secteur	Scenario	Mesures de la CDN	Indicateur de la CDN	Indicateurs Proposés	Unité de l'indicateur	Description de l'indicateur	Valeur de référence	Cible 2030	Valeur actuelle	Source de vérification	Responsable
AFAT	Inconditionnel	Projet d'appui aux populations dépendantes de la forêt PAPF/DGM	ND	Superficie de forêts protégées pour la REDD+	Ha	C'est la superficie des terres forestières protégées contre la déforestation et la degradation des forets			18743,15	Rapport d'activité du projet	MEEA/SP-REDD+
				Superficie de forêts reboisée	Ha	C'est la superficie des terres forestières reboisées pour la restauration			15522,32	Rapport d'activité du projet	MEEA/SP-REDD+
		Projet d'appui au développement de l'anacarde dans le bassin de la Comoé pour la REDD+ (PADA/REDD+)	Superficie de nouvelles plantations agroforestières mises en place,	Superficie de nouvelles plantations agroforestières mises en place,	Ha	C'est la surperficie totale de terres où de nouvelles plantations agroforestières realisée	0	25000	26 645	Rapport d'activité du projet	MEEA/DGEVCC

Secteur	Scenario	Mesures de la CDN	Indicateur de la CDN	Indicateurs Proposés	Unité de l'indicateur	Description de l'indicateur	Valeur de référence	Cible 2030	Valeur actuelle	Source de vérification	Responsable
	Conditionnel	Forêts, agroforesterie et mise en place de jardins nutritif pour une diversification climato-intelligente	Quantité de gaz à effet de serre émis réduite	Superficie de terres forestières restaurée	Ha	C'est la surperficie totale des reboisements et les recuperation des terres degradées à finalité de forêts	0	20000		Rapport d'activité DGEVCC	MEEA
			Nombre d'espaces de conservation créés par les collectivités territoriales	Superficie de terres agroforestières mises en place,	Ha	C'est la surperficie totale de terres agricoles ou non transformées en terres agroforestières	0	15000			MEEA
		Réalisation de 100000 hectares de Régénération Naturelle Assistée dans 25 communes du Burkina Faso	Superficie sur laquelle la RNA est pratiquée	Superficie des terres couvertes par la RNA	Ha	C'est la superficie de l'ensemble des terres sur lesquelles la RNA est pratiquée	0	100 000			MEEA
DECHETS	Conditionnel	Projet de récupération du méthane à partir du traitement des eaux usées	Quantité de méthane récupéré	Quantité d'energie produite	kw	C'est le nombre total de STEP permettant de recuperer le biogaz (methane) à	0		1	rapport d'activité ONEA	Commune de ouagadougou

Secteur	Scenario	Mesures de la CDN	Indicateur de la CDN	Indicateurs Proposés	Unité de l'indicateur	Description de l'indicateur	Valeur de référence	Cible 2030	Valeur actuelle	Source de vérification	Responsable
		de la STEP de Kossodo				partir du traitement des eaux usées					
		Projet de récupération du méthane issu de l'enfouissement des déchets du CTVD	Quantité de méthane récupéré	Quantité de méthane récupéré	Tonne	C'est la quantité de methane issue de l'enfouissement de déchets menagers au CTVD	0	73	0	Rapport commune de ouagadougou	Commune de ouagadougou
		Projet de valorisation de 200 000 m3 de boue de vidange en biogaz	Quantité de boue de vidange récupéré	Quantité d'energie produite	kw	C'est le nombre total d'usines permettant de transformer les boues de vidanges en biogaz (methane) à partir du traitement des eaux usées	21651	1 500 000	0	Rapport d'activité ONEA	Commune de ouagadougou
		Projet de construction et d'extension des stations de traitement des eaux usées		Quantité d'energie produite	kw	C'est le nombre total d'usines permettant de transformer les boues de vidanges en biogaz (methane) à partir du traitement des eaux usées	0				Commune de ouagadougou
		Projet de construction et d'extension des stations de traitement des boues de vidange		Quantité d'energie produite	kw	C'est le nombre total d'usines permettant de transformer les boues de vidanges en biogaz (methane) à partir du traitement des eaux usées	0				Commune de ouagadougou

Annexe 2 : Actions d'adaptations majeures contenues dans la CDN de 2015

Actions / projets d'adaptation	Technologies correspondantes	Cibles INDC				Régions cibles potentielles	Total Population concernée (2015)	Tonnes de CO2 séquestrés/ Economisés par an horizon 2030
		Unité	2020	2025	2030			
Secteur Agriculture et gestion de l'eau								
105.000 ha d'aménagement de CES chaque année pour la restauration ou le maintien de la fertilité des terres de culture	Zaï seul	Ha cumul	75 000	150 000	225 000	Nord; CentreNord; Sahel; nord de la Boucle du Mouhoun; nord de l'Est	2 250 000	666 000
	Zaï + cordons pierreux	Ha cumul	175 000	350 000	525 000	Nord; CentreNord; Sahel; nord de la Boucle du Mouhoun; nord de l'Est	5 250 000	1 554 000
	Cordons pierreux végétalisés	Ha cumul	225 000	450 000	675 000	Toutes Régions sauf Cascades	6 750 000	1 998 000

	Cordons pierreux + Zaï + RNA	Ha cumul	50 000	100 000	150 000	Nord; CentreNord; Sahel; nord de la Boucle du Mouhoun; nord de l'Est	1 500 000	444 000

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